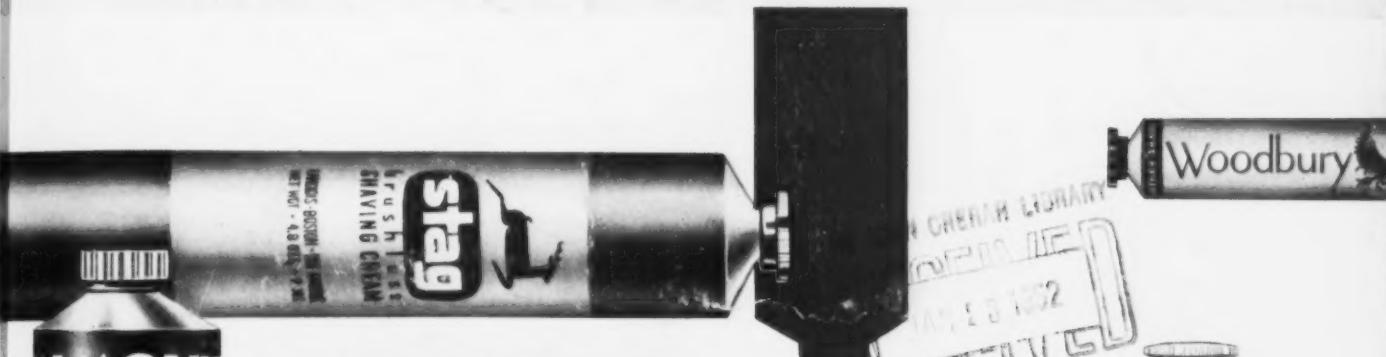


668.5
JANUARY 1952

IN TWO SECTIONS
SECTION 1

the American Perfumer and ESSENTIAL OIL REVIEW

COSMETICS · SOAPS · FLAVORS



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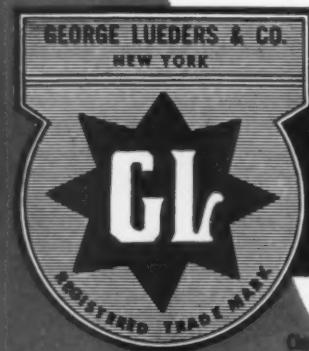
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the American Perfumer and ESSENTIAL OIL REVIEW

COSMETICS • SOAPS • FLAVORS

Established 1906

CONTENTS • JANUARY 1952

Research

Path for Cosmetic Research Indicated M. G. de Navarre 25
Opportunities pointed out at S. C. C. meeting

Vanilla and Related Aromatics Dr. N. C. Larsen 53
Irreplaceable vanillin and how it is made

Production

Uses of Cera Emulsificans F. T. Wells 19
How improved versions are used in cosmetics

Practical Emulsion Formulation I. R. Hollenberg 29
Problems which may be solved by newer materials

How Geranium Rosat is Cultivated Aug. J. Hugues 33
Prices quoted in various trading centers

Advantages of Hiring Older Factory Workers E. W. Fair 47
Government and university research facts

How Brandy is Aged Dr. Morris B. Jacobs 51
Effect of aging on flavor and how it is done

How to Choose Suitable Soap Fixatives Paul I. Smith 57
Practical points for milled or liquid soap

Management and Sales Promotion

Appraisal of Delaney Hearings on Cosmetic Chemicals 28a
Analyses by Dr. E. G. Klarmann and Kenneth Mulford

T. G. A. Scientific Section 35
Rating of cosmetics and other topics discussed

What the Retail Buyers Report 41
Reports from trading areas outside New York

Regular Features

Desiderata Maison G. de Navarre 15

Questions and Answers 17

Hints for Improving Production 47

New Products and Developments 42

New Packaging and Promotions 38

Flavor Section 51

Soap Section 57

The Round Table 59

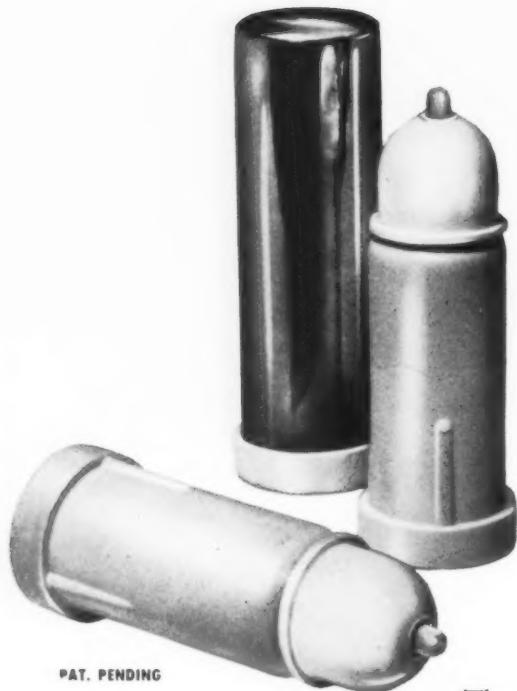
Market Report 67

Prices in the New York Market 69

Index to Advertisers 76



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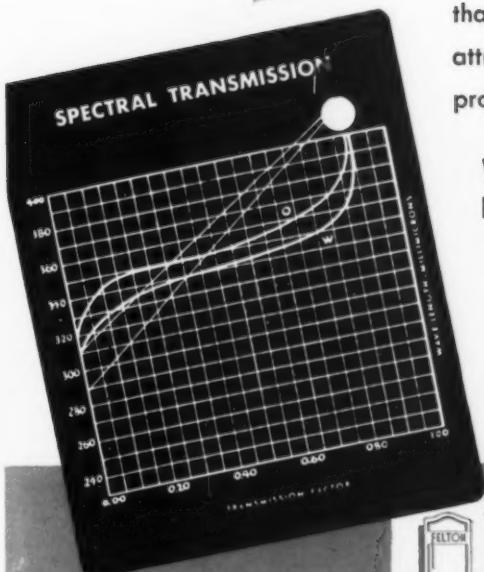
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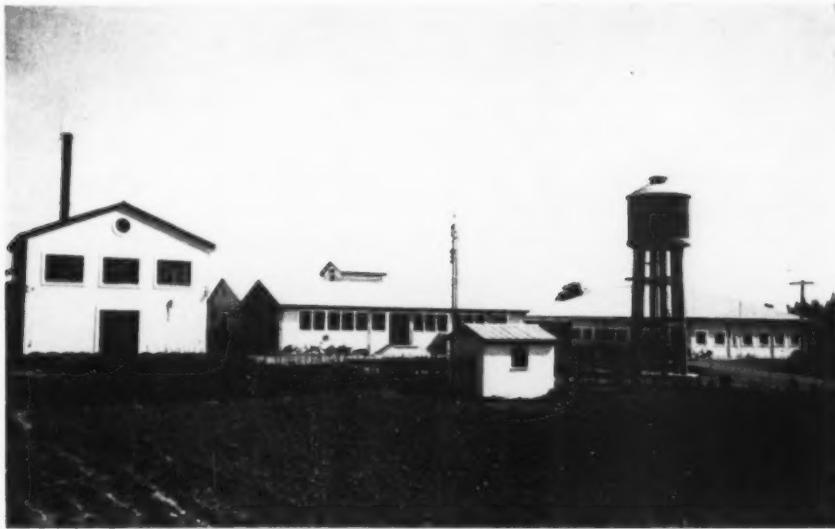
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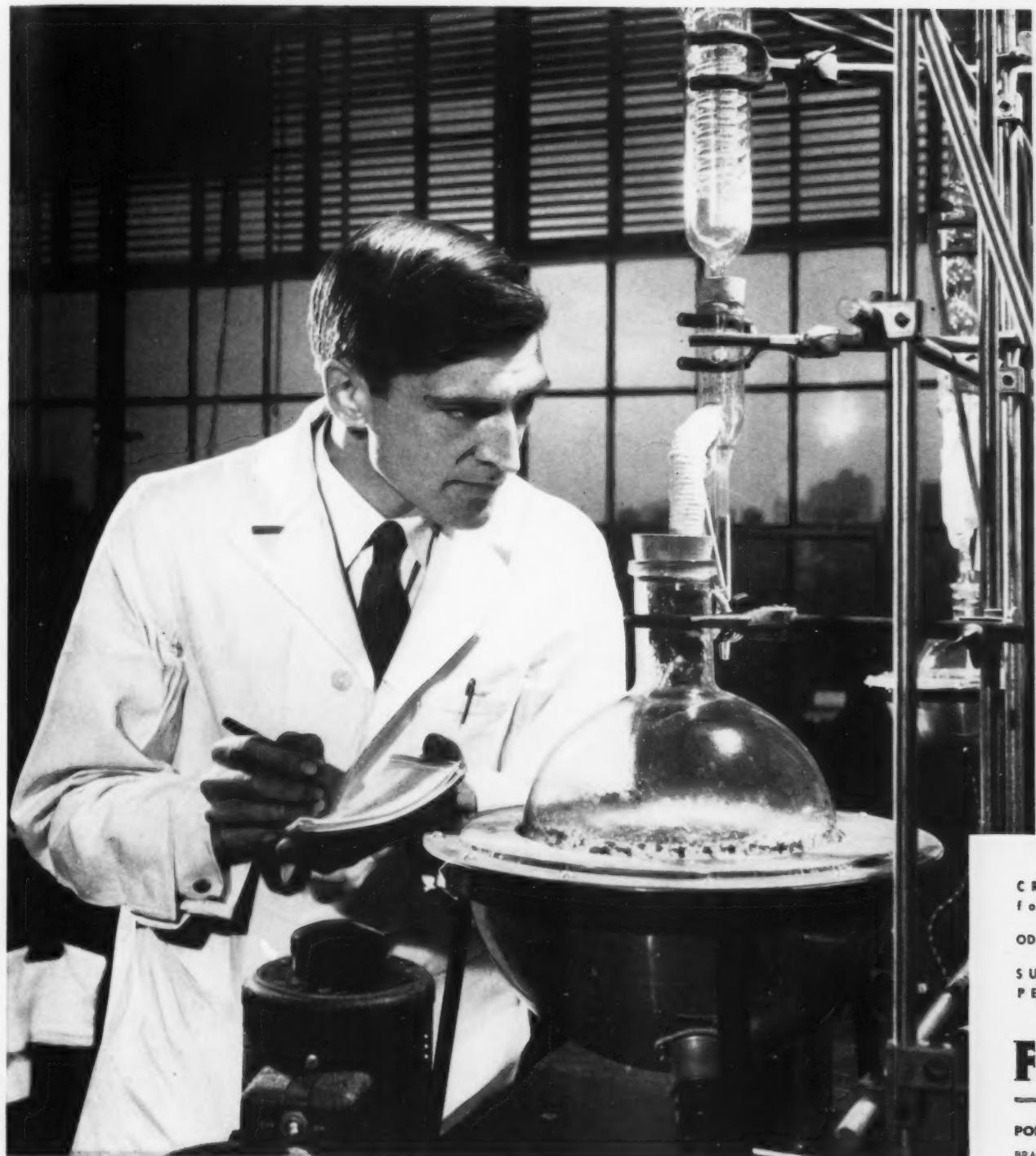
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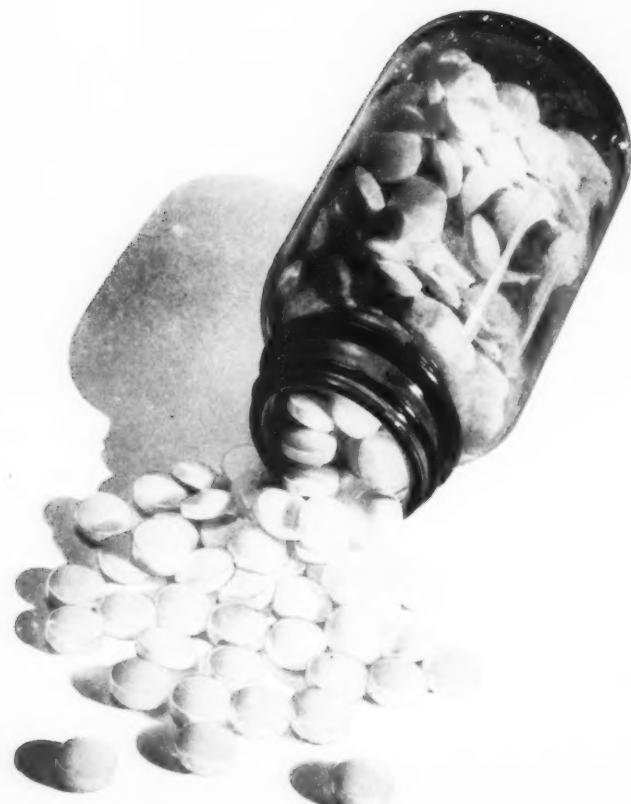


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THE INTEGRITY of an individual is a condition of character that comes from within—an habitual, deep-seated morality that refuses any compromise with honesty, uprightness or truth. Corporate integrity is personal integrity multiplied many times. But it has validity and substance only to the extent that it is made a guiding principle of management and is pursued vigorously by those in positions of high office or control. It cannot be by words alone, but by practice, action and deeds of wise and able management that a supporting organization can be inspired to higher purpose, greater accomplishment and a sense of responsibility beneficial to all with whom it deals. Business, today, as a result of its amazing responsiveness to public and national needs, is held in general high regard. This favorable position becomes even more pronounced as public indignation mounts with each new disclosure of government laxity and official breach of trust. It is Management's job to keep Business' banner flying high. It can do so no better than by avoiding complacency and the giving of mere lip service to its ideals. It must not forget that *integrity* is something more than just a word!

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THE PROVOCATIVE CHARM OF THE COQUETTE . . . ?

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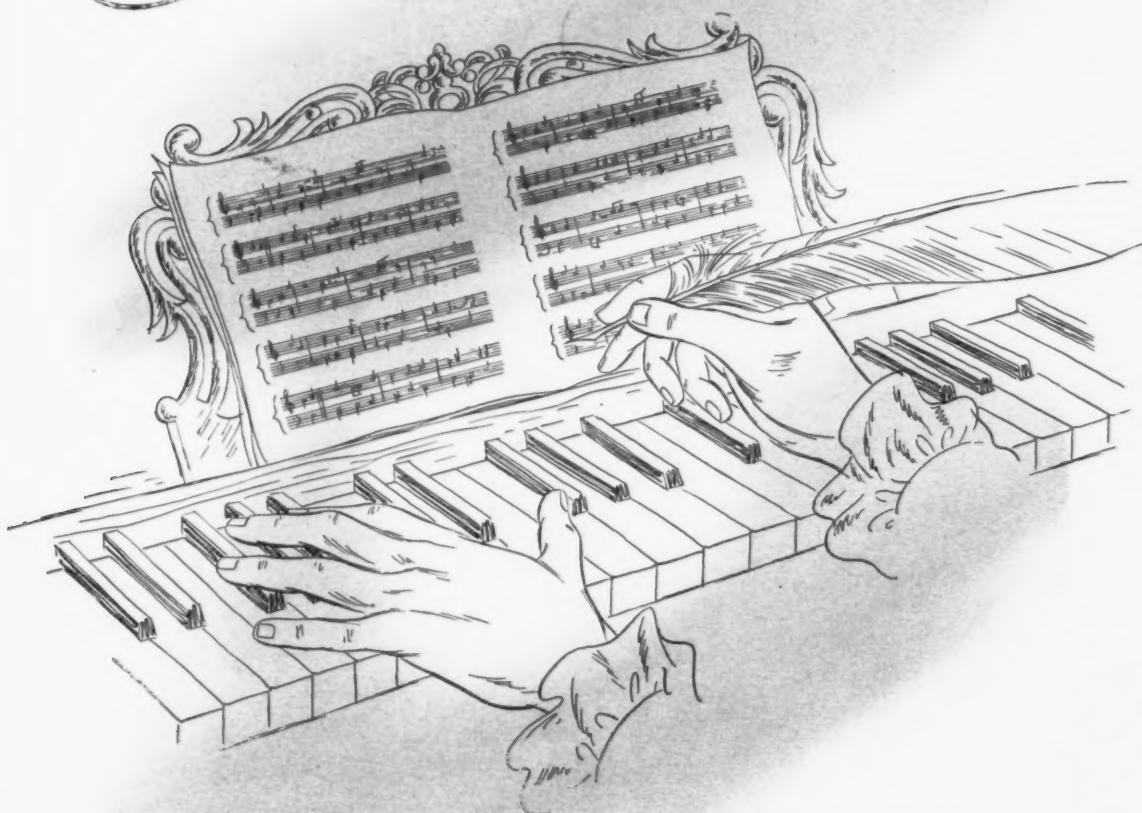
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Desiderata

by MAISON G. deNAVARRE, F.A.I.C.

To Rep. Delaney and F.D.A.

On September 13, 1951, acting commissioner of the Food and Drug Administration, John L. Harvey, addressed himself to Mr. V. A. Kleinfeld, Counsel for the Delaney Committee, on the general subject of serious mishaps which occurred in the cosmetic industry since the inception of the Food and Drug Act of 1938. Since that time, in the thirteen year period involved, (1) one person died from a cold wave solution containing ammonium hydrosulfide; (2) during the war, dermatitis occurred on the necks and faces of some women using hair lacquer pads fabricated from a synthetic resin used to replace shellac; (3) later a nail polish base-coat caused darkening and damage to the fingernails; (4) in 1951, several shampoos were seized because they produced irritation in the human eye, even though shampoo is not intended to be used in the eyes.

While the F. D. A. insisted that the lady in Atlanta died from a cold wave given to her, there is considerable doubt among other sources, but be that as it may.

The hair lacquer pads produced skin irritation in a number of cases during an era when a lot of things used as substitutes produced all kinds of reactions from foods, drugs, or cosmetics.

In the case of the nail polish base-coat, it is understood that some tests were made and the results indicated the product to be satisfactory. Difficulty did not develop until the product got into wider use.

The shampoo seized produced corneal opacity when introduced into the eye even though shampoo is no more intended for the eye than water is intended for the lungs. In either case, undesirable

results can take place if improperly used.

All of these *horrible* things happened because the F. D. A. feels that there is not enough legislation, and it is accordingly aiding or abetting Representative Delaney who is trying to find out whether "more legislation" is needed to "protect the public."

A few mishaps occurred in the drug industry, where the kind of laws do exist, that the F. D. A. would like to have applied to cosmetics.

During the same period, how many deaths resulted from improperly labeled drugs, such as the sulfathiazole-phenoxybarbital mix-up? What happened in the case of the senna laxative for children? And rather than go into the boring details of what has happened with the scores of ampoule solutions and single and multiple dose units old or new, which were made and sold under the *strict regulations* which the F. D. A. has possessed since the inception of the 1938 Act, it is suggested you read the "Notices of Judgement," published by the F. D. A. for the facts themselves.

So, while two wrongs don't make anything right, we can see that *legislation is not the answer*. The F. D. A. knows better than anyone that it is the integrity of the manufacturer that counts the most. Even though the phenobarbital-sulfathiazole episode occurred at a company having the best control procedures and the highest integrity, the F. D. A. has few problems with most well-known manufacturers but a lot of problems with the "fringe." There is a "fringe" in every industry that is the source of that industry's troubles.

We have it in government circles, where most of the people are honest and conscientious, but there are



M. G. deNavarre at work in his laboratory

a few stinkers who cast a bad reflection on the others. Need we say more here?

And while on this general subject, one cannot help but wonder why the F. D. A. has taken no action on boric acid used as a dusting powder on infants when it has been established by enough medical authorities at recognized hospitals that boric acid is a poison to infants. It is one of the curious paradoxes in these conflicting times.

No, Mr. Delaney, more legislation is not the answer. F. D. A. removes dangerous products quickly enough as it is. F. D. A. cannot prevent "reactions" that occur in wide consumer tests even though they don't show up in tests of 200 people, or scores of animals. The "percentage" is against them.

Plastic-Coated Metal Tubing

The value of plastic-coated metal pipe is already apparent to all. Unfortunately, metal tubing coated in similar way has not been generally available until recently. The supplier now offers such tubing in square, triangular, oval and streamlined shapes. The plastic coating consists of polyethylene and vinyl plastic. The coating is resistant to corrosion, not injured by change in temperatures and, of course, is free from static shock.

Firing Old Employees

This department doesn't specialize in philosophy but there are times when one wonders at the wisdom exercised by executives when they allow an employee to stay with them for 20 or 30 years and

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then let him go. This department has argued before and does so again that if it takes a company 20 or 30 years to find that there is something wrong with a man, it looks pretty bad for the management. On the other hand, the company has a very substantial investment in that man and it is very dollar foolish to lose him. This is just plain good business.

And yet regularly one hears of men in this industry who, after having served one firm for so many years, being let go because of some internal political situation or because of some changes within the company program.

Is Menthol Dangerous?

In an article by Highstein and Zeligman appearing in the J.A.M.A., 146, 817, 1951, the author's describe an allergy to menthol brought to light by the smoking of mentholated cigarettes. The patient developed *nonthrombocytopenic purpura*. The rash appeared and disappeared as the patient did

or did not smoke the mentholated cigarettes. There seems to be no previous report of such an allergy to menthol.

In view of the wide use of menthol in shaving creams and lotions in particular, and recently in the frozen stick cologne, one wonders if the industry's experience can in some way tie these findings to their own. Here is a potential threat that every user of menthol in cosmetics should investigate completely.

Deep Stain Lipsticks

It is no secret that propylene glycol has been used in deep stain lipsticks for the purpose of dissolving the staining ingredient and causing a rapid penetration of the same into the skin.

However the propylene glycol has a characteristic unpalatable taste. One of the well known aromatic houses has developed a type of propylene glycol in which the unpleasant taste has been overcome, specifically for use in the deep stain type of lipstick.

opinion a water-in-oil emulsion would have a rather greasy feel, while the oil-in-water emulsions would be more suitable for the purpose. We should certainly appreciate it if you would let us have your opinion on this matter.

M. I. N., New York

A. The statement made about water-in-oil emulsions is correct. The success of the product speaks for its acceptability. While there are oil-in-water emulsions on the market, water-in-oil emulsions still outsell them to our knowledge.

921: Maintaining Lather

Q. I would like to know what is added to shaving soaps and creams to prevent the lather from breaking down and running as other soaps do.

H. O. S., Penna.

A. Regarding an addition to shaving cream to prevent a breakdown of the lather, this is accomplished in part by the proper balance between the fatty acids used in making soap and by the addition of such materials as methyl cellulose or cetyl alcohol in a concentration of about 1 per cent.

922: Water Repellent

Q. We are interested in a water repellent to be used in a hair preparation. Oil soluble. Can you please advise us where we can get this material and some information to prepare same.

L. B. C., New York

A. Any oil applied to the hair will repel water. Sometimes calcium stearate is added to oil to increase water repellance but this addition will solidify the oil.

923: Negro Hair Straighteners

Q. We are interested in as complete information on the formulation and use of permanent hair straighteners and cold wave lotions for the Negro trade, as you can give us.

M. M., New York

A. The compounding of Negro hair straightener is full of problems. The wise thing is for someone like yourself to buy private label. The name of one of the best companies we know of making such a product is sent to you separately. To make these things from the raw materials requires special equipment, careful handling and processing.

Questions and Answers

918: Liquid Dandruff Remover

Q. We are planning on including some thin clear liquid dandruff remover in our present line of cosmetics. Please send us your best formula.

R. R. Sweden

A. Your liquid dandruff remover covers a considerable amount of work. These products can be highly alcoholic or not alcoholic at all. Resorcinol monoacetate also known as euresol is probably one of the best known and most widely used scalp antiseptics for the purpose such as you have in mind. We suggest that you try formula 135 in the book "The Chemistry and Manufacture of Cosmetics."

Resorcin Monoacetate 2.5 parts

Unsaturates 2.5 "

Oil Clove 0.5 "

Cinnamein 2.0 "

Alcohol S.D. to make 100.0 "

Dissolve the ingredients in alcohol, set aside for a few days then filter bright.

919: Powdered Dentifrice

Q. I would like to obtain a formula for making a powdered dentifrice. The basis of the dentifrice would

be salt (200 mesh) and sodium bicarbonate. What proportion of flavoring should I use and what kind and in what proportion should I use soap to obtain a foamy dentifrice?

R. Y. Illinois

A. The question of making a powdered dentifrice with salt and bicarbonate of soda resolves itself into using a proportion of the one ingredient to the other that gives you a satisfactory taste. Too much soda is brackish, too much salt will of course be salty. Ordinarily from 5 to 10 per cent of soap powder is required to give adequate foam. The choice of flavor is entirely up to you and it is suggested that you contact some of the perfume houses advertising in *The American Perfumer* for samples of flavor compounds for this purpose, indicating the type of flavor you desire.

920: Water-in-Oil Emulsions

Q. On page 106 you mentioned under "Hair and Scalp Preparations" the cream oil hair dressings which you identify as water-in-oil emulsions. We wonder whether this is a typographical error and should read, "oil-in-water." In our

There are many things which might be said in this space this month but nothing
that we would like to say better than

HAPPY NEW YEAR!

May the year 1952 bring you an abundance of good health, happiness and in-
creasing prosperity.



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Uses of Cera Emulsificans

Constitution and characteristics of an officially recognised oil in water emulsifying agent. . . . How improved versions are utilised in cosmetic manufacture. . . . Part I.

F. V. WELLS*

AMONG the numerous cosmetic emulsifying agents that in normal circumstances form oil-in-water emulsions, the general type known to pharmacists as Cera Emulsificans is of more than passing interest. This general type is probably, in fact, the most widely used pharmaceutically of all O/W emulsifying agents in current U.K. practice. It is also highly esteemed and much used in cosmetic manufacture. There are, furthermore, many signs apparent that the same general type is being increasingly utilised in the U.S.A., where of course it has to compete with the most comprehensive range

of emulsifying agents available anywhere in the world.

It will be readily appreciated that Cera Emulsificans, or emulsifying wax, is a generic term that calls for further explanation and definition. Probably the most satisfactory means of clarifying the issue is to adopt the historical approach. Very briefly, the history of this important group of emulsifying agents is as follows:

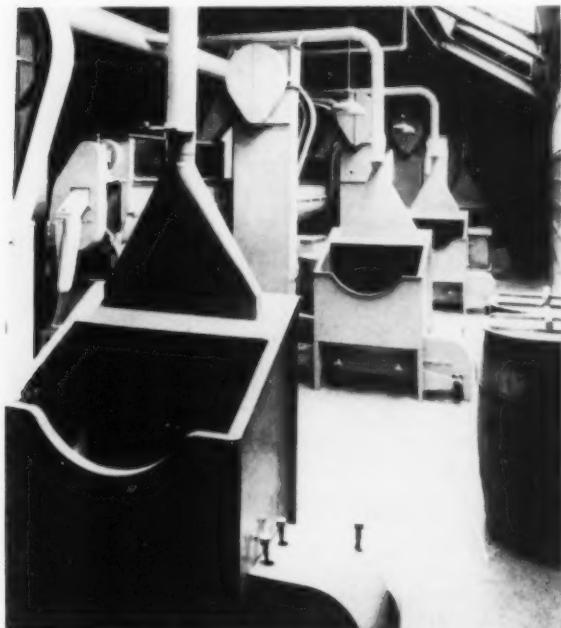
Historical Development

Around 1930, research chemists of the Deutsche Hydrierwerke A.G., pioneers in the commercial production of higher fatty alcohols by catalytic hydrogenation, found that by combining a fatty alcohol with its sulphated derivative they obtained an emulsifying agent with properties superior to those of either of its constituents. The higher fatty alcohols by themselves act as relatively weak emulsifying agents of the water-in-oil type, while the sulphated fatty alcohols are powerful emulsifiers of the oil-in-water type but their emulsions are somewhat unstable and lacking in consistency. The combination of the two was found to yield stable oil-in-water emulsions of practically any desired consistency, from a thin milk to a stiff cream. Though this combination was thus developed more or less empirically, the general scientific principle underlying its formulation (i. e. the efficacy of mixed emulsifiers of opposing type) has since been confirmed on theoretical grounds by such eminent workers as Schulman and Cockbain.

From 1932 to 1939, this first proprietary emulsifying agent of the Cera Emulsificans type became increasingly popular in Europe as a basic constituent of toilet creams and pharmaceutical salves. One of the earliest papers in English to be published on the subject was the contribution of the late H. Stanley Redgrove to a British pharmaceutical journal in 1933.¹ The same author, in 1937, amplified his views on this type of emulsifying agent in the following terms²:

"An emulsifying agent, which is very effective, is obtained by converting commercial mixtures of cetyl and

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Hooded hoppers and mixing plant in the face powder production department of a well known British cosmetic firm. Complete absence of air borne dust is a notable feature.

stearyl alcohol into the acid sulfates and neutralizing with soda. These "sulfonated" alcohols, as they are called, are usually marketed in the form of mixtures containing about 90 per cent of free alcohols and 10 per cent of sulfated product. For most purposes, the proportion of sulfated alcohol is too high, as so little as about 1 to 2 parts of this product per 1,000 parts of finished cream suffices to produce a good and stable emulsion. It is desirable therefore to use mixtures of the 10 per cent sulfated alcohols with relatively high proportions of the corresponding free alcohols."

For certain applications, but not for all, Redgrove's comments, as we shall see later, are perfectly in order and well founded on fact. Meanwhile World War II brought about a further expansion of the use of this partially sulfated fatty alcohol product in pharmaceutical ointments and ointment bases—practically all as a result of impartial investigation by the highest medical and pharmaceutical authorities in the United Kingdom such as the Medical Research Council. It was included in various editions of the N.W.F. and B.P. addenda and became so important that when shortage of raw material limited the quantities that could be produced, the British Directorate of Medical Supplies took control and limited its use to the highest pharmaceutical purposes, including the large demands of the Armed Forces at home and overseas.

With wartime restrictions abolished, this popular emulsifying wax became freely available once again to the cosmetic industry—much to the relief of chemists who had, in the interim, been forced to purchase or devise substitutes. A word or two regarding other "self-emulsifying waxes" may here be interpolated. Some, as offered on the market, were more or less crude mixtures of restricted applicability; others were basically stearic acid partially saponified to give a mixture of stearic acid and sodium stearate etc., with perhaps traces of lanolin or paraffins present; and still others were products only approximating to the requirements of the B.P. Cera Emulsificans. Concerning the partly saponified emulsifying bases, Frank Atkins, B.Sc., F.R.I.C., recorded at the time³ that "creams made from bases of this type are not compatible with a wide range of reactive materials, as are those made from the partially sulfated type of emulsifying agent." This, of course, is perfectly true, and serves to emphasise one of the main advantages of Cera Emulsificans, namely its versatility.

We may recall that, at this stage, a number of articles and patent specifications connected with this subject had seen the light. Thus a patent taken out in 1938⁴ for a thioglycollic acid depilatory refers to the combined use of 9 parts of stearyl alcohol with 1 part of sulfonated stearyl alcohol. In 1939, the late Frank H. Sedgwick, writing on the cosmetic applications of cetyl and stearyl alcohols,⁵ had listed sodium alkyl sulfates as the most satisfactory of auxiliary emulsifiers for use with these fatty alcohols. On the pharmaceutical side, Mumford and Soulsby^{6, 7} had published work leading to the much wider use in salves and ointments of partially sulfated alcohols. In the U.S.A., many concurrent investigations had been in progress: here one particularly recalls the valuable, though somewhat controversial, details published by J. Macias-Sarria.⁸ One of the highlights of the British Pharmaceutical Conference in 1947 was the paper read by J. W. Hadcraft, who reminded his audi-

ence that "the most commonly used anhydrous O/W base" at that time was a proprietary mixture containing partially sulfated fatty alcohols.

The most important date in the history of Cera Emulsificans, however, is 1948—for it was in that year that it became the subject of an official monograph in the British Pharmacopoeia.

From 1948 to 1951, many observations on this general type of emulsifying agent have been published, as well as a number of formulae based on Cera Emulsificans or modifications thereof. Some of these modifications are of considerable interest, a few being of even greater utility to cosmetic manufacturers than the product officially specified in the B. P.

Cera Emulsificans B. P.

Before proceeding further, however, it is desirable to examine the monograph that appears in the 1948 edition of the British pharmacopoeia. For the benefit of readers who have no copy of this volume, the following brief but necessarily incomplete details are given. Under the heading Cera Emulsificans (Emulsifying Wax) it is stated that this product "contains cetostearyl alcohol and sodium lauryl sulfate or similar sodium salts of higher primary aliphatic alcohols." It is said that a suitable preparation may be obtained by melting 90g. of cetostearyl alcohol and heating to about 95°. To this 10 g. of sodium lauryl sulfate is added. When mixed, 4 ml. of distilled water is added and the whole heated to 115°. Maintaining the same temperature, vigorous stirring is continued until frothing ceases and the product is translucent. Cooling should be rapid.

The white or pale yellow waxy solid so formed is described, and the following figures are given for its acid, iodine and saponification values respectively: not greater than 0.1, not greater than 3, not greater than 1. Unsaponifiable matter, 88 to 92 per cent. Other figures given are not of major importance for the purposes of this review, except the figure of 95 parts per hundred which is given as the degree of solubility of the product in alcohol.

The first point that arises in considering this specification is that products complying with it need not necessarily come up to the standard of the original partially sulfated alcohol product or, indeed, with that of other similar products, whether prepared by the user in his own laboratory or purchased from reputable commercial sources.

Readers of the specification should appreciate at the outset the fact that, wherever the British Pharmacopoeia specifies a compounded product (i. e. one which is other than a single chemical entity), it always gives one possible method of making the compounded product, so that the individual pharmacist may, if he wishes, prepare it from its component parts. The B.P. follows this principle in its Cera Emulsificans monograph. It does not necessarily follow that the method given is a good one, or is even at all applicable to bulk manufacture. In regard to the particular formula and method published in this case, I feel that I can safely say the following:

Firstly, sodium lauryl sulfate is specified as a constituent of the formula, although the preamble clearly states that any "similar sodium salts of higher primary aliphatic alcohols" may be used. In general, though not for all cases, the choice of sodium lauryl sulfate is not to be



View in the cream mixing section of a British cosmetic firm with slabs of emulsifying wax in the foreground. The covered ports in the floors are used for feeding the finished creams to the hoppers of filling machines on the floor below.

commended, because it is on several counts less satisfactory than certain homologous products, notably sodium cetyl and sodium stearyl sulfates. Quite apart from other considerations, such as relative skin irritant action under favorable conditions, emulsifying waxes made up in this way with the lauryl sulfate sodium salt give emulsions substantially less viscous than those given by mixtures of 90 per cent cetyl/stearyl alcohol and 10 per cent of the same mixed alcohols sulfated. Successful proprietary products are usually prepared on the latter basis. The lack of viscosity referred to in the B.P. emulsifying wax holds true in all cases, whether the final emulsion contains wax and water only, or wax, water and other ingredients.

Secondly, the method cited in the B.P. specification is, of course, quite unsuitable for commercial requirements and is not in any case adapted for bulk manufacture. The heating together of any sodium alkyl sulfate, and in particular sodium lauryl sulfate, with water for any length of time at 115°C is bound to result in a partial breakdown of the compound, and in a very low pH on the acid side. In fact, thirty minutes' heating at the much lower temperature of 80°C is likely to begin this hydrolytic process and, once begun, it continues slowly thereafter, even when the batch has cooled.

Successful proprietary waxes of the Cera Emulsificans type are not made in this way, but by process utilising minimum temperatures. For most purposes the best of the proprietary waxes are much to be preferred to a wax produced in strict accordance with the B.P. specification. Alternatively, the cosmetic chemist may at times prefer to use the separate fatty alcohols and sodium alkyl sulfate, in accordance with the method of preparation described by Pickthall.⁹

My third criticism of the specification is written solely from the cosmetic manufacturing point of view. The actual analytical details are quite satisfactory for the hospital dispenser or pharmacist, but for cosmetic and toilet preparations, and for proprietary creams and ointments,

which retail to the public, the limits given are in some instances unnecessarily narrow and in others rather too wide. To illustrate the latter point, one may observe that the sodium sulfate content is not directly mentioned, but indirectly one may calculate that it could go up to nearly 5 per cent—whereas in a good commercial product the sodium sulfate content should be less than 1 per cent.

It is not my intention, however, to belittle or condemn the B.P. specification for Cera Emulsificans. Undoubtedly it represents a step in the right direction, by giving official status to a very important class of emulsifying agents. On the other hand, its limits are wide enough to permit the acceptance of products that need not, in fact, come up to the uniform and established high standards of the original partially sulfated fatty alcohol product—on the success and prestige of which the B.P. monograph is incidentally based. Careful discrimination is therefore essential when purchasing an O/W emulsifying agent of the B.P. Emulsifying Wax type for cosmetic use.

Modifications in Practice

What, then, are the qualities that should be sought after, in a good product of the Cera Emulsificans type? Much, of course, depends upon the use to which the emulsifying agent is to be put, but for the majority of face cream and make-up emulsions the partially sulfated cetyl/stearyl alcohol products are to be preferred. The original and still the most widely used product of this type is prepared by the sulfation under special conditions of a homogeneous mixture of cetyl and stearyl alcohols, so that the final mixture consists approximately of 10 per cent of the sulfated homologous series of fatty alcohols together with 90 per cent of the same alcohols unsulfated. This general type of product, which is nowadays produced by more than one firm, still show variation from source to source. The original has been accurately described in the following terms:¹⁰

Cera Emulsificans (Commercial)—as we shall call it—is a waxy solid, white or pale yellow in colour and virtually odourless. It melts at about 50°C and shows a characteristic fracture which may be amorphous or somewhat crystalline. It is self-emulsifiable in water, giving an oil-in-water type of emulsion: more frequently it is used with oils, fats and waxes etc. to give O/W emulsions of remarkably good appearance and stability. Such emulsions can also hold in suspension a considerable variety of pigments etc., as in powder creams and other make-up cosmetics. Inorganic salts of the monovalent metals may likewise be introduced in reasonable concentrations into these emulsions, without detriment to stability.

Neutral in itself and readily utilisable for the production of neutral emulsions, the product is also stable to appreciable variations on the acid or alkaline side, a property that can be further extended by buffering—thus giving stable emulsions over a pH range of approximately 2.5 to 10.

Its freedom from quantitatively minor impurities, that may subsequently cause major defects in the finished article on storage, is one of the chief advantages that the original type of Cera Emulsificans exhibits over certain other types of emulsifying wax. Associated with this characteristic is its chemical stability and non-rancidifying properties. It requires no addition of antioxidants, but emulsions containing it should be suitably preserved from mould attack, as for example by the addition of 0.1 to 0.2 per cent of one or more of the parahydroxybenzoic acid esters. A point worth noting here is that Cera Emulsificans has good wetting properties, so that oil-in-water emulsions containing it should not be packed in metal containers prone to rusting or electrochemical attack: glass, porcelain and adequately coated collapsible tubes are recommended as containers.

Dermatologically, these partially sulfated cetyl/stearyl alcohol emulsifiers can be confidently recommended. The same observation does not necessarily apply, however, to all substitute materials—as we shall see when we briefly consider the published work of Macias-Sarria. Ralph G. Harry, F.R.I.C., a well-informed and cautious critic of cosmetic materials, has written that the original Cera Emulsificans (Commercial) "is neither a primary irritant nor a sensitiser. On the contrary it possesses useful emollient properties and is dermatologically innocuous."

Emulsions prepared with Cera Emulsificans (Commercial) are known for their freedom from degreasing and dehydrating effects. They nevertheless strike a nice balance and facilitate, because of the polar properties of their primary fatty alcohols, the lubrication of, and penetration of emollients etc. into, the intact skin. They act well on normal, dry and greasy skins and, when desired (as in shampoo creams, for example) they can be readily removed from the skin and scalp with water.

It is rarely that one finds so many desirable properties manifested by a single cosmetic material. One is not surprised, therefore, to note that Cera Emulsificans (Commercial) is used, or has been recommended for use, in an extraordinarily wide range of cosmetic and toilet preparations including:

Vanishing Creams (also Foundation and Day Creams), Bleaching Creams, Lubricating Creams and Night Creams; so-called "Skinfoods" and "Skin-Rejuvenat-

ing" Creams; Powder Creams and Cake Make-Up; Baby Creams and Medicated Creams; Hair and Scalp Conditioners and Hair Creams; Hair Darkening Pomades; Cream Shampoos and Jelly Shampoos; Hand Jellies; Beauty Milks and Liquid Creams; Barrier Creams and improved Calamine Creams; Insect-Repellent Emulsions; Cream Depilatories, Make-Up foundations and Camouflage Sticks; also Soapless Shaving Creams and other specialties.

In the Formulation section of this paper that follows, a representative selection of formulae for such preparations is given. Sometimes the manufacturing procedure is indicated in detail, but in cases where any doubt may arise the following general notes on "Methods of Preparation" may well be taken into account, more especially as they are quoted from the authoritative source cited under Reference 11:

"The emulsifying wax and all other oily and waxy and oil-soluble ingredients are melted together over a water bath to a temperature of between 60° and 70°C. The water and all other water-soluble ingredients, such as glycerin, soluble acids etc., are warmed separately to about the same temperature. The oily mix is then poured into the aqueous solution and the whole stirred constantly while cooling slowly. If it is desired to add solid powders as well, these should be pre-heated to the same temperature, and added at the same time so that the whole is stirred together. Rapid cooling should be avoided and it is particularly necessary to ensure steady stirring through the temperature range 50°C-40°C. Perfumes or volatile oils should be added when, whilst stirring, the mass is partially cooled, and the stirring continued. In general, the percentage of water should not fall below 50 and preferably not below 60 in any formula.

"Perfectly stable and satisfactory emulsions can be obtained by simple stirring without the aid of a homogeniser, but such a machine may improve the texture and appearance, especially in the case of very thin emulsions, by reducing the particle size. A similar effect may be obtained by reheating the cool emulsion to a temperature of 75°C and again stirring continuously until cold, and this will be found effective in cases where the emulsion has been spoilt by interruption of the stirring, too rapid cooling or where the formula is near the limit of stability. The more efficient the emulsifying machine used the more viscous will be the emulsion obtained from the same formula. When large-scale machines are used, a closed-type homogeniser is preferable in order to avoid aeration. When 'home-made' apparatus is used, care should be taken that the paddles or stirring vanes rotate horizontally and do not project above the surface of the liquid—otherwise they will drag air in and cause considerable aeration.

"Only in very exceptional cases—i.e., where the emulsion is near the limit of its stability—is difficulty experienced; and even then perfect emulsions can be obtained if special methods are tried. These emulsions should not be made in ordinary iron vessels. Enamel or stainless steel is perfectly satisfactory."

It is here desirable to note that the Cera Emulsificans (Commercial) so described is not the only member of the interesting group of partially sulfated fatty alcohol emulsifiers. We have already seen that the B.P. version of this wax contains 10 per cent of the lauryl sulfate in place

of the cetyl/stearyl. José Macias-Sarria has reported¹² cases of skin irritation caused by a cleansing cream containing 3 per cent of technical sodium lauryl sulfate. While this evidence is by no means conclusive, U.K. practice does not favour the use of the lauryl sulfate in preparations intended for constant and prolonged use on the skin. Acknowledging the fact that the lauryl sulfate is a more effective wetting agent than the cetyl/stearyl sulfate, U.K. cosmetic manufacturers prefer to reserve the lauryl derivatives for shampoos and detergent creams and to use higher homologues when an emulsifying action is desired in preparations such as face creams and make-up items, which are frequently applied and left for long periods in contact with the skin.

While this implies a further indirect criticism of the B.P. specification, it is not likely that the sponsors of the latter would easily be beguiled into recommending a preparation of a pronouncedly irritant character. The findings of Macias-Sarria should perhaps be treated with reserve unless a much greater bulk of supporting evidence accumulates. It is a well-known fact that some of the most popular lines of shampoos and brushless shaving creams, containing sodium lauryl sulfate, have been marketed for years without complaint regarding skin or scalp irritation. (Incidentally M. G. de Navarre was obviously using sodium lauryl sulphate in a much more circumspect way than Macias-Sarria when he wrote that "it is amazing how much oil can be emulsified with 3 to 5 per cent cetyl alcohol and only one-tenth to one-twentieth the amount of sodium lauryl sulfate." Here we have only 0.3 per cent of the lauryl derivative, as opposed to Macias-Sarria's more lavish use of 3 per cent.)

Jack Pickthall, while commanding the value to the cosmetic chemist of Cera Emulsificans (Commercial) adds that¹³ "when this type of emulsifier is heated with water, the water extracts the sodium alcohol sulfate, which forms a complex at the interface with the cetyl alcohol. The excess cetyl alcohol forms the oil phase and is emulsified in the water. In some cases, emulsions made from cetyl alcohol/cetyl sulfate mixtures require reheating to produce fine particle size and homogenous emulsions. This is especially true in acid media and in the presence of high concentrations of electrolytes. This failure to produce stable emulsions at the first attempt is explained by the fact that it is not always possible to extract all the cetyl sulfate from the mixture into the aqueous phase, in one operation. This is strikingly demonstrated by making a mechanical mixture composed of 2 parts sodium cetyl sulfate and 2 parts cetyl alcohol. This base will make a fairly good cream if heated with 50 parts of water and 50 parts of mineral oil. If, on the other hand, the 2 parts of sodium cetyl sulfate are dissolved in the 50 parts of water and the 2 parts cetyl alcohol in the mineral oil, the effect of mixing the two phases is to produce an emulsion which can only be equalled by the application of a great deal of mechanical effort to the first cream. When cetyl alcohol is replaced by woolwax in the above experiment, the contrast is even more marked."

This observation of Pickthall's explains why cosmetic chemists occasionally prefer, for specific purposes, to use the fatty alcohols and their sulfated derivatives separately, instead of using the ready-prepared, standardised mixtures.

(Part II will appear in the succeeding issue.)

Structure of Keratin Fibers

THE diffraction of X-rays by keratin fibers produces evidence of regularity in molecular arrangement that has led to the proposal of several structural models for the keratin molecule. Only part of the fiber consists of the well-ordered material that has been investigated by X-ray techniques, but the amount of less well-ordered material has not been satisfactorily determined. The distribution of the "crystalline" keratin with respect to the various structural regions that have been identified in wool and hair by light and electron microscopy also is not completely understood. Solutions of neutral salts can swell either disordered or ordered regions of a fiber, depending on the conditions and the salt, and may produce considerable changes in its mechanical properties.

—Abstract from paper by Richard Steele, Ph.D., Textile Research Institute, before Society of Cosmetic Chemists.

Foaming Properties of Surface Active Agents

FOAMING depends on the tendency of surface-active materials to orient rapidly at newly-formed air-liquid interfaces and to form a plastic solid membrane. Factors that determine the mobility of surface-active materials include solution viscosity and the colloidal character of the solute, in turn dependent on its own total concentration, concentration of the foam-forming species, extraneous ion concentration, and temperature. The physical properties of the air-liquid interface depend on the molecular architecture of the surface-active agent, intermolecular forces, and degree of hydration; the precise relationship of these factors with chemical composition is imperfectly understood at present.

Characteristics of foam that may be conveniently measured are liquid-gas content, viscosity, and resistance to mechanical stresses, particularly shear. Laboratory testing of foams is not entirely adequate for cosmetic evaluation.

A number of examples illustrating the importance of these principles are presented. These examples include the function of foam stabilizers and thickeners.—Abstract from paper by H. W. Zussman, Alrose Chemical Co., before Society of Cosmetic Chemists.

Cosmetic Excise Tax Collections

COSMETIC excise tax collections for the years of 1949 and 1950 and also the collections for the months of 1951 so far issued are given in the table following:

	1951	1950	1949
January	\$12,255,363	\$ 9,836,052	\$ 9,648,063
February	12,867,842	11,654,681	12,984,776
March	8,534,569	6,811,063	6,796,181
April	5,746,348	6,985,099	6,913,884
May	9,293,461	8,316,993	6,983,445
June	8,622,275	8,136,742	7,625,450
July	8,901,311	7,965,373	6,776,881
August	10,252,706	9,671,335	7,807,221
September	7,698,854	7,542,472	6,859,446
October	9,365,932	7,900,314	6,760,409
November	8,916,488	8,159,612	7,738,779
December		7,781,091	7,312,007

The Story Of Cosmetics

IN addressing the Akron section of the ACS on December 13, Maison G. deNavarre, recent Medalist of the SCC, Technical Editor of The American Perfumer and vice president in charge of manufacturing and research for Cosmetic Laboratories, division of Beauty Counselors, Inc., pointed out that such things as food, clothing, home furnishings and automobiles all have practically doubled in price since 1939, and that at the last census, cosmetics as a whole had increased in price only 3.1% by 1947 and that the figure today was somewhat higher but less than 10%. Greater efficiency in production and selling are the rewarding factors.

Fifteen years ago, there were a couple of dozen chemists employed by cosmetic manufacturers. Today there are hundreds in the industry.

"How soon are dangerous products removed from the market?" someone asked. The speaker said that the Food & Drug Administration can act almost instantly in removing dangerous products from the market. Wholesalers, jobbers and retailers are contacted by either national radio broadcasts or by telegraphic directive, coupled with the local police departments; dangerous products can be removed within a relatively few hours.

To the question, "Is mascara harmful?", it was mentioned that not only is it not harmful, but more women should use it to accent their eyes. Too few American women give eye make-up the time, thought and consideration they give to the use of lipstick, though eyes are more expressive. Mascara as it is made today is as innocuous as it is possible to make. It is free from irritation, is not runny and will not rub off.

When asked if permanent waving hastens graying of hair, the speaker pointed out that a good permanent wave enhanced the appearance of all hair. Graying of hair following permanent waving has never been seen.

When asked about the antiseptic properties of borated talc, it was pointed out that Boric Acid is a weak antiseptic and that it was suspected this time as the cause of death among infants whose bodies had been dusted with or exposed to Boric Acid in one form or another.

The use of silk in cosmetics was touched on. The speaker mentioned that there is no reason why it should be used because while the word "silk" connotes a lovely sheer feeling in the mind, powdered silk itself is far from what one might expect it to be. It is not inert, it can putrefy, and has the potential for being a source of skin sensitiveness. The speaker did not know if these theoretical considerations were actually confirmed by use.

Hormone creams came in for discussion too. The speaker mentioned that estrogen is the hormone generally used and that its ability to increase water retention by the true skin is well known to all of the medical profession. Biopsy sections taken from treated and untreated skin show this property well along with an increase in the blood capillaries. Since in old age there is a lower blood supply resulting in poorer skin color and lower water content in the skin, the effect of estrogen on such senile skin can be very desirable.

In reply to the question as to whether *hormone creams could cause cancer*, it was pointed out that if this supposition were true, the Food and Drug Administration in Washington would have removed these products from the market a long time ago. There are no references in the science literature to confirm any implications that estrogenic hormone creams can produce cancer. The speaker pointed out that loose statements made by some of the experts testifying before the Delaney Committee were not supported by facts and were strictly personal opinions which are meaningless if not backed by experimental data.

Chemical Treatments on Hair

A CRITICAL analysis of the stress-strain properties of hair has revealed new information about its molecular structure. Unique changes in stress-strain behavior can be produced by the alteration of specific chemical bonds. These unique changes furnish the evidence for an hypothesis on the strength contributions of the various chemical bonds known to be important in the elasticity of hair. In particular, the role of the disulphide bond is clarified. This is the bond most affected by permanent waving and hair bleaching.—*Abstract from paper by Walter J. Hamburger, Ph.D., Fabric Research Laboratories before Society of Cosmetic Chemists.*

Hair Soils and Detergency

THE types of soil on human hair vary widely among people depending upon differences in the functioning of the glands of their scalps, in their environment, and in their shampooing habits. Solid soils such as soot, dust, salts (from perspiration), and cellular debris are mixed with oily and waxy materials resulting from sebaceous secretions and applied hairdressings.

The ability of detergents to remove these soils is a function of a number of variables, including formulation, concentration, water temperature, and mechanical agitation. Methods for measuring factors contributing to detergency such as surface and interfacial tension, sudsing power, and "wetting out" ability are well known. However, none of these permit the actual observation of a detergent in action.

An instrument for such observations on single fibers consists essentially of a source of light, a special glass cell in which the action takes place, a microscope mounted horizontally (equipped with a prism eye-piece), and a movie camera for recording the action. The glass cell is so mounted that it can be raised or lowered at will. At one side of the cell is a reservoir in which a stirring mechanism causes the circulation of the detergent solution at any desired speed. The fiber to be washed is mounted securely in a metal holder placed in position over the cell. If direct observation, rather than a motion picture, of the action is desired, a ground-glass or other type of translucent screen may be mounted in place of the camera.—*Abstract from paper by James C. Ervin, Procter & Gamble Co. before Society of Cosmetic Chemists.*

"Every man's work is always a portrait of himself."—*Samuel Butler.*



President McDonough Presents Medal to Maison G. deNavarre.

THE foremost scientists in the cosmetic industry in the United States who gathered December 6 at the annual convention of the Society of Cosmetic Chemists in the Hotel Biltmore, New York, N. Y. were rewarded with an excellent program of technical papers. And, at the luncheon, in the absence of Representative James J. Delaney, chairman of the Select Committee to Investigate the Use of Chemicals in Food Products and Cosmetics, well considered remarks on the hearings were made by Kenneth Mulford of Atlas Powder Co. and Dr. E. G. Klarmann. In view of the fact that hearings were scheduled to be held in the federal court house, Foley square, New York by the Delaney committee January 10, 11, 14 and 15 the remarks of both were not only timely but of significant value to the industry. Both addresses are published elsewhere in this issue. In the evening the prized medal of the Society of Cosmetic Chemists was awarded amid universal acclaim to Maison G. deNavarre whose manifold services to the cosmetic industry were outlined in the December issue of *The American Perfumer*.

Program for Cosmetic Research

M. G. deNavarre in accepting medal of Society of Cosmetic Chemists points out most fruitful subjects

Newly elected officers of the association are:
President, Solomon D. Gershon, Lever Bros. Co., Chicago, Ill.

President-elect, Dr. Paul G. I. Lauffer, George W. Luft & Co., Long Island City, N. Y.

Secretary, Robert A. Kramer, Evans Chemetics, New York, N. Y.

Treasurer, Moody L. Crowder, Pond's Extract Co., Clinton, Conn.

Directors: Emery A. Emerson, Wildroot Co., Buffalo, N. Y. and Dr. Donald H. Powers, Warner-Hudnut Inc., New York, N. Y.

Technical Sessions

A morning and an afternoon technical sessions were held, President Everett G. McDonough presiding. The following papers, which are abstracted elsewhere in this issue, were read: "A Photomicrographic Technique for Studying Hair Soil and Detergency," J. C. Ervin, Procter & Gamble Co.; "A Study of the Swelling of Hair in Mixed Aqueous Solvents," Dr. E. I. Valko, Brooklyn



Notables and Distinguished Scientists in the Industry with their wives occupied the Speakers' Table on the Dais.



Left: Marcel Suter in his Glory between the Misses Dorothy Smith and Elizabeth Scott who engineered Registrations. Right: Ray Reed, Stephen R. Goff, Ross Whitman and W. S. Arnold jointly Drink a Toast to a Charming Guest.

Polytechnic Institute and G. Barnett, Warner-Hudnut Inc.; "A Study of the Effect of Chemical Treatments on the Mechanical Behavior of Hair," Dr. Walter J. Hamburger, Fabric Research Laboratories; "Recent Developments in the Study of the Structure of Keratin Fibers," Dr. Richard Steele, Textile Research Institute, Princeton, N. J.; "A Study of the Deodorizing Properties of Chlorophyll in Dentifrices," Dr. Louis C. Barail, U. S. Testing Co.; "Colloidal Properties of Surface Active Agents," H. W. Zissman, Alrose Chemical Co.; "The Study of the Characteristics of Foam," Gilbert D. Miles, Colgate-Palmolive-Peet Co., Jersey

City, N. J. and "Germicidal Soaps and Cosmetics," Prof. C. A. Lawrence, University of Michigan.

Presentation of Medal

Following an enjoyable reception where old friends greeted one another and enjoyed chats over cocktails, the annual banquet was held. The feature of this of course was the presentation of the medal.

After the last course had been served President E. G. McDonough introduced the toastmaster Dr. Dan Dahle whose skill in that capacity is country-wide.

The first speaker was Dr. Emil G. Klarman, who in



Left: Some amusing object interests Mrs. Centa Isermann while Irvin Zeluff looks straight ahead. Center: Henry Eickmeyer tells an amusing story to J. H. R. Stephenson and Walter Wynne. Right: H. Albert Beekhuis and Mrs. Bettie Stanton enjoy the outlook.



Left: Among those active in the evening's festivities were Mrs. Moody Crowder, Mrs. Raymond Stetzer, Mrs. Eric Blackstead, Mrs. Walter Taylor, Mrs. E. G. Klarman and Mrs. M. G. deNavarre. Right: Edward Sagarin, Dr. E. G. Klarman, Dr. Walter Taylor, Dr. Eric C. Kunz, Harland J. Wright, Dr. Dan Dahle and H. D. Goulden.



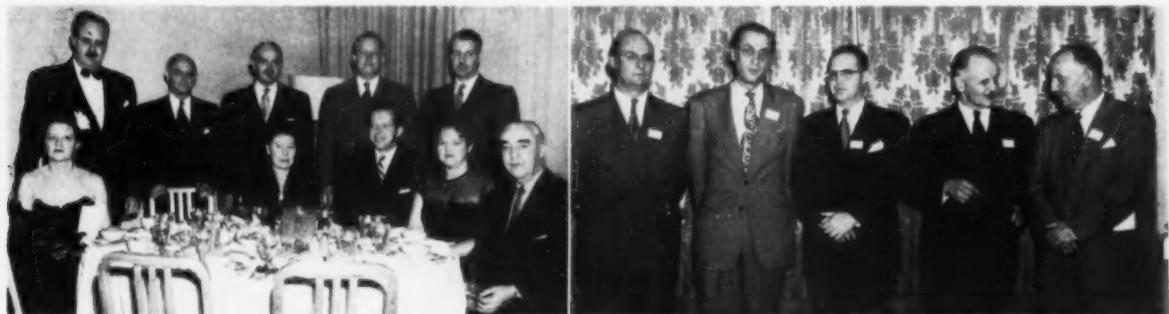
Left: The highly respected and much beloved Col. Marston Taylor Bogert surrounded by five former students who earned their PhD degrees under him: Dr. Paul I. Laufer, Dr. Everett G. McDonough, Dr. Victor Fourman, Dr. Everett Saul and Dr. Eric Hewitt. **Right:** Miss Anne Myiforuk, Mrs. Maison G. deNavarre and Dr. and Mrs. E. G. McDonough.

his usual scholarly way, outlined in his speech "Maison G. deNavarre, the Cosmetic Chemist" the technical qualifications of Mr. deNavarre and his accomplishments in the field of cosmetic chemistry, notably his contributions to the literature of the industry, his activities in founding the Allied Trades Assn. of Michigan and the Society of Cosmetic Chemists, his work for the government during the war, and his role as an educator in Wayne University. To this he added many interesting sidelights on the numerous associations of which Mr. deNavarre is a member and before which he has lectured or presented papers and also his

work for the U. S. P. and N. F. At the conclusion of his informative talk Dr. Klarmann declared that when he was informed of the choice of the committee to receive the medal award his immediate reaction was "It could not have happened to a better man."

Harland J. Wright followed with some interesting sidelights on the medalist in his talk on "Maison G. deNavarre, the Man." With his flair for telling anecdotes Mr. Wright's talk was filled with good humor and wisdom. The medal was then presented by President McDonough.

After thanking the association for the award, Mr.



Left: A table of merrymakers—Mr. and Mrs. Edward P. Morrisey, Mr. and Mrs. E. J. Breck, Mr. and Mrs. George Blake, J. H. R. Stephenson, Ralph Stevenson and Walter Wynne. **Right:** A serious group—W. R. Cochrane, G. Barnett, Ernest Briggss, F. C. Beardsley and W. McQueen.



Left: A friendly chat was enjoyed by Wiley Pickett, W. E. Arensmeyer and Mr. and Mrs. William McQueen. **Right:** Louis Bezard, C. N. Anderson, William H. Peacock, H. J. Amsterdam, John H. Muller and Henri Robert pause to observe something that caught their fancy.

Dr. McDonough welcomes the new president, Dr. Solomon Gershon.



deNavarre in his acceptance speech followed with a "special edition of Desiderata," in which he said in part:

"In leading off this special edition of Desiderata, let me first pass the plaudits to the hair waving part of our industry for its dramatic accomplishments during the past dozen years. There is no division of our business that has spent as much real scientific effort in so short a time and in turn reaping so rich a harvest. It is an inspiring example to all."

What Oils Are Good for the Skin

"Over the years we have not questioned the notion that animal and vegetable oils and fats were "better" for the skin in some nebulous way that we fail to describe exactly. Nevertheless, the feeling has always been there.

"This impression was somewhat strengthened by the evolution of the fact that mineral fats tended to dry the skin either by solvent action of sebum or by water extraction from the skin. We agreed that mineral fats

just floated on the skin surface and didn't do "much good."

"Recent work on rats (admittedly, not directly translatable to humans) throws enough light on the subject to be the basis of a more profound investigation.

"Butcher found that the most provocative in producing a skin desquamation not unlike oily dandruff, was oleic acid itself, followed by oils rich in oleates especially oils with small amounts of free oleic acid. After oleic acid came olive oil, then soaps of oleic acid. It may be that part of the so-called drying action of soaps may be due to the oleate soaps. Mineral oil, stearic acid and castor oil were mildly provocative, with mineral oil being the most effective. Lanolin produced little or no effect.

"The work was summarized by a view that in the test rat castor oil and lanolin may be the best for keeping "the skin bearing hair in best condition." Here then is much to think about. Yet, the evidence when added to other data on the effect of fats and oils on animals, indicates the need for more basic research. Is this not a "natural" project for the cosmetic industry?

Radioactive Tracers

"It may seem far fetched that by-products of work on atomic fission find employment in cosmetic practice, but it is not.

"In 1949, Barail and Pescatore reported before this Society, their findings on the use of cold cream made with synthetic cetyl palmitate containing Radioactive Carbon₁₄ in the molecule. Briefly, delicate Geiger counters were developed to detect penetration or absorption. Cetyl palmitate was not absorbed.

"Along another line, Lux and Christian found that permeability of frog skin could be more accurately determined by using a radioactive tracer. They adapted the technic to determine the effects of astringents on the permeability of frog skin, using radioactive Sodium Iodide.

"A variation of as much as 65% between the permeability of the skin of twelve frogs was found. Astringents increased permeability of the skin; the action was independent of nature or concentration of

(Continued on page 32)



Secretary and Mrs. Robert Kramer chat briefly with Dr. and Mrs. Solomon Gershon.



Mr. and Mrs. J. M. Quigg and Mr. and Mrs. Eugene Barton were among the notables present.

Delaney Testimony Deflated

Why government restrictions on chemicals in cosmetics to insure safety are not needed nor wise pointed out by Dr. E. G. Klarmann and Kenneth Mulford at S. C. C. luncheon.

Congress is not likely to enact into law any restrictions on the use of chemicals in cosmetics at least this year in the opinion of observers who have analyzed the testimony given so far in the hearings conducted by Representative Delaney. There is however likely to be discussion of the proposal in Congress when the hearings are completed. The viewpoint of the industry is well expressed in the addresses of Dr. E. G. Klarmann, from the standpoint of the cosmetic manufacturer; and Kenneth Mulford from the standpoint of the supplier of chemical ingredients for cosmetics. The substance of both papers follows.

Cosmetic Manufacturer's Analysis

DR. E. G. KLARMANN
Lehn & Fink Products Corp.

In his address at the luncheon Dr. E. G. Klarmann pointed out that his remarks were not a substitute for those of Representative Delaney who was unable to be present, either in regard to the significance of the subject or to the direction in which any further developments might take place. "I can only attempt" he said "to review the relevant developments to date and to comment upon them as one chemist to a group of fellow chemists engaged in the same industrial field." The balance of Dr. Klarmann's address follows.

No doubt you are familiar with the origin of the investigation which has been going on for some time under the chairmanship of Mr. Delaney. Pursuant to House Resolution 74, the 82nd Congress created a House Select Committee to Investigate the Use of Chemicals in Food Products, which has held a number of hearings. In the course

of these hearings several witnesses, while testifying on the subject of chemicals in food, expressed some tangential opinions relating to certain cosmetics, and particularly to hormone creams.

In September 1951, Mr. Charles W. Crawford, Commissioner of Food and Drugs, speaking before the American Bar Association's Food, Drug and Cosmetic Section, called for an amendment of the Federal Food Drug and Cosmetic Act which would provide a control over new ingredients of cosmetics somewhat in the manner of the well known "New Drug" provision of this Act. This was followed by a letter which Associate Commissioner John L. Harvey addressed on Sept. 13th to Mr. Vincent A. Kleinfeld, counsel of the Delaney Committee. In this letter, Mr. Harvey discussed four specific cases as being of interest "as collateral to the subject matter of chemical additives in foods." However, shortly before adjournment of Congress, the House of Representatives adopted House Resolution 447 extending the Delaney Committee's powers of inquiry into cosmetics.

At this point it cannot be stated whether there will be an amendment of the cosmetic section of the Food Drug and Cosmetic Act in the manner indicated in Mr. Crawford's address. No doubt, this will depend upon the quality and the weight of expert testimony which the Committee will collect in the course of the hearings before it. Some pertinent testimony has already been heard by the Committee in San Francisco on Nov. 20th and 21st, and in Los Angeles on Nov. 23rd and 24th.

While it could be argued that the purely legislative aspects of this matter may not be a proper subject for discussion by a technical group such as ours, I submit that we may properly discuss the technical aspects of the four cases reviewed by

Mr. Harvey in his letter to the counsel of the Select Committee, and of the testimony rendered by the experts heard to date.

Let us consider first Mr. Harvey's four cases. They are:

1) The case of the heatless wave which is alleged to have caused a fatality in Atlanta, Ga. some 10 years ago, I believe. This was attributed to the inhalation of hydrogen sulfide in a dose sufficient to cause death.

2) The case of the hair lacquer pads which caused contact dermatitis and attendant complications, due to the use of certain synthetic resins possessed of irritant properties. This happened about 8 years ago.

3) The case of the fingernail coatings which produced injury to the nails, attributed to the use of certain new complex organic chemicals employed in the formulation of these nail preparations. This case is about 4 years old.

4) The most recent case is that of the dry shampoo, consisting of a combination of a non-ionic with a cationic surfactant which was found to be capable of producing a persistent opacity of the cornea when introduced into the eye.

As to the 10 year old case No. 1, it is common knowledge that practically every cold wave preparation found on the American market today contains a salt of thioglycolic acid as its active ingredient. An objective perusal of the literature on thioglycolates discloses that their use in home cold-waving is free from any toxicological risks. Preparations of the type referred to in Case 1 have not been in existence for years, and are not likely to reappear on the scene.

As to the 8 or 9 year old Case No. 2, I am wondering, to what extent it might have been possible to define such highly complex materials by means of chemical specifications so as to insure their

unvarying composition from lot to lot. There is reason to believe that the irritant or sensitizing action of high-molecular polymers depends upon the occurrence and the number of reactive groupings, and that the latter is a function of the physical treatment of the material, in terms of time, temperature and other factors. Thus it is entirely conceivable to end up with two or more kinds of polymers of different sensitizing reactivity when starting with the same initial material. In a case like this, the cosmetic formulator may not always be in a position to notice such differences; instead he may have to rely upon his supplier for constancy of composition of the material used in his formulation. If his trust in his supplier is misplaced then it may happen that he will obtain one lot of satisfactory material, followed by another which is unsatisfactory, e.g., due to improper curing, or to substitution of one ingredient by another. Thus, in the particular instance of the hair lacquer pads, there was also the question of replacement of certain natural resins by synthetic ones, owing to wartime shortages; the manufacturer of these pads did not seem to be aware of this substitution as performed by his primary supplier.

Case No. 3 is of considerable interest, because, as I have it on good authority, expert dermatological testing actually preceded the marketing of the fingernail coating. In this case, the extent of susceptibility to the nail coating may not have been indicated by the size of the testing panel chosen, or perhaps the manner and frequency of application of the preparation by the susceptible ultimate user did not correspond to that of the supervised test group.

In the case No. 4, we have a situation entirely unlike any of the cases 1, 2 and 3, in that here the injury appears to be a function of the concentration of the offending agent. I doubt whether such information was available at the time when the injurious character of the dry shampoo in question was first discovered, or, if available, whether it has been relayed, with the proper emphasis by the producer of the initial material to the cosmetic formulator. It is quite likely that if the shampoo under discussion had been turned over to a dermatologist for examination, it would have been subjected by him to some form of "patch-testing" without inclusion of an "eye-irritation" test. The experience gained in this

particular case now teaches that in the case of products applied to the hair or scalp the existing tests for irritancy or sensitization should be supplemented by an "eye-irritation" test.

I have taken the liberty of discussing with you these four test cases, so that together we might consider whether a provision in the cosmetic section of the Food Drug and Cosmetic Act, corresponding to the "New Drug" provision in the drug section of this Act, would have prevented these cases from happening (assuming, of course, that such a provision would have existed). It seems to me that it would not have had this effect.

With respect to Case 1, I do not know how many instances of the ammonium sulfide type of cold wave had been administered before the Atlanta fatality occurred. I am told that the product in question has been on the market for several months, and so one may conclude that there must have been quite a number of cases of actual usage. Now if the proponent of this cold wave process would have made an application to the F.D.A. under a hypothetical "new cosmetic" provision, he could have pointed to an adequate number of satisfactory use results, and he probably would have obtained the F.D.A.'s clearance. Parenthetically it might be added here that the Atlanta fatality has not been traced definitely to hydrogen sulfide poisoning; there are some indications that the individual in question may have died from complications arising from a different cause.

A consideration of the cases Nos. 2, 3 and 4 would seem to justify a similar assumption, for the reasons stated in their individual analyses. Particularly with respect to case No. 3, the pre-testing of the nail coat carried out under dermatological supervision, did not prevent the outbreak of reactions to this preparation.

Factor of Accident

What all these four cases indicate, more than anything else, is the existence of the factor of the accident. Accidents cannot be prevented by legislation any more than the best controlled plant can prevent an occasional mislabeling of a container, or the best run pharmacy an occasional mistake of dispensing one drug for another.

Now what about the testimony presented thus far? Again it would take entirely too long to review

every part of it with any degree of thoroughness. However, let me give you a few examples.

At the original hearings in Washington, two experts testifying in the matter of implantation of stilbestrol pellets in poultry got off on the tangent of hormone creams, apparently for illustrative reasons. A personal inquiry addressed to them elicited the reply that their comments were not intended to represent any expert views on hormone creams. Nevertheless, some reports of this particular hearing carried a distinct implication of an unfavorable opinion having been expressed on the subject of hormone cosmetics before the Committee.

No complete transcript of the recent California hearings is available to me at this time, and so I have to rely upon the extracts published by one of the trade reporting services. In California, testimony was given by both physicians and by individuals from the industry. As to the medical testimony, some of it was characteristically repetitive, consisting of a restatement of some opinions, previously expressed by others, but not based upon any new facts developed by the witnesses themselves. Thus two dermatologists expressed concern in the matter of "over-dosage" of hormone creams, but declined to make any specific statement as to the hormone concentration which would be acceptable to them. To date no endocrinologist has been heard from; in my opinion, this is the type of specialist who should be heard in the matter under consideration.

We all know, of course, that a very substantial amount of pertinent information on this subject has been collected and published. One of the speakers at the T. G. A. Scientific Section meeting told us that published scientific information does not always "get read"; and so it is possible that some experts may express personal, speculative opinions, unrelated to any experimental data, simply because they are not aware of just the kind of published, factual information which is relevant to the questions raised by the Committee's interrogators.

One of the medical witnesses named hair dyes, synthetic perfumes and nail polishes as being involved most often in allergic dermatoses. Now as to hair dyes, the customer already has effective protection against allergic reactions in that the Food Drug and Cosmetic Act requires the presence of a

rather strongly worded caution statement in the labeling of hair dyes of the paraphenylenediamine class.

As to the perfume question, I do not quite know what this expert referred to in connection with synthetic perfumes. Perhaps he did not realize, as some physicians do not, that all perfumes contain synthetic ingredients, i.e., those not obtained from floral oils or other strictly natural sources.

Nor do I know what he would like us to do in the case of nail polish at this stage of development.

These witnesses were in favor of a legislative requirement of extensive patch testing of cosmetics prior to marketing, the suggested minimum number of patch tests ranging from 200 to 1000, and with a test period of six months to one year. Incidentally, the suggestion has been made also to have the type and extent of required tests determined by a conference of medical specialists and cosmetic experts, under the auspices of the National Research Council.

Other medical witnesses dealt with indelible lipsticks, depilatories, deodorants and hair tonics, by way of repeating the well known, but hardly justified criticisms which have been leveled by some physicians against this type of product from time to time.

One bit of testimony was particularly interesting. In the course of it a medical witness cited the book by Doctors Schwartz and Peck, "Cosmetics and Dermatitis" as listing 135 substances used in cosmetics which are capable of causing dermatitis, with 54 of them being primary irritants. Now, I can comment upon this sort of testimony with some feeling, because I happened to collaborate with Doctors Schwartz and Peck on this book; (in saying this, I am not betraying any secret since the fact of this collaboration has been acknowledged by the authors in the foreword to the book).

I submit that the kind of statement made by the last mentioned witness is distinctly slanted. If you refer to this list in the book, you will find that the substances enumerated (which, by the way, I did not have the time to count, preferring to accept the witness' count as correct) include such things as beeswax, lanolin, gum karaya, several perfume oils, soaps, etc., etc. What the authors of the book obviously intended to say is that one or the other of these substances may have been involved in a reported case of

skin reaction, in order to alert the dermatologists as to the multiplicity of material which might be involved in any new cases presenting themselves to them for examination. The authors definitely did not intend to represent the cosmetic industry as a sinister organization which uses as its tools 135 offenders either primary irritants, or known sensitizers, or both. Would this witness want us to stop using lanolin? Or would he ban beeswax, thereby making it impossible to prepare a simple cold cream? Or how about prohibiting the use of toilet soap which because of its general use probably has been involved in more instances of allergic dermatoses than any single cosmetic? And if this gentleman had to refer to the book by Doctors Schwartz and Peck, why did he not round out his testimony by quoting other passages from this book, such as the following:

"There are a number of preparations, however, which are rightfully classed as cosmetics and which have a claim to beneficial action on the skin. Thus, in the case of the dry skin, or the skin of older people, in the prevention of minor skin irritations and in the hygiene of the skin and of its appendages, certain classes of cosmetics can be of definite aid. The principles by which they are formulated are well known to many dermatologists and are used by them in their practice. The value of such cosmetics depends chiefly upon their cleansing, emollient, protective, and hygienic properties."

"Creams containing animal or vegetable oils or lanolin have a beneficial effect on dry skins and aging skins because of their emollient properties. They have also been found to be of value in chapping of the skin after exposure to wind, weather, and solvents because of their soothing effect. The latter depends upon their capacity to effect a replacement of the natural skin lubricants which had diminished physiologically or had been removed by the emulsifying action of soap and water or of other degreasing agents."

"The protective action of cosmetics on the skin is one of their important uses. Lip pomades, including correctly formulated lipsticks, have been found to be especially useful against chapping of the lips."

"Hand creams and lotions are

used to keep the hands soft, to counteract and alleviate chapping and roughness due to exposure to cold and wind, also to oppose the defatting action of frequent or prolonged immersion of the hands in soapy water."

The number of such quotations could be increased almost at will.

Of course, it need not be told to the group of people assembled here, that we are aware of the paramount importance of several factors in connection with our work. Thus, I am sure that we all exercise extreme care in selecting the purest initial materials available. In our purity requirements, we are being guided by the specifications of the U.S. Pharmacopoeia, the National Formulary, etc., but in many instances our requirements are even more stringent than those of the standard reference compendia mentioned.

In connection with any new chemicals, we are aware of the vital importance of tests which would assure their harmlessness when becoming a part of our formulas. All this is a matter of common knowledge, and specifically, it is known to the informed dermatologist. This is why I am confident that as new testimony is rendered by other medical specialists at future hearings to be held by the Delaney Committee, the picture will change, so as to counterbalance some of the unfavorable testimony on record.

On the basis of the testimony gathered, the Committee will decide whether or not an amendment to the Food Drug and Cosmetic Act will be necessary with respect to new chemicals for use in cosmetics. In my personal opinion, proper enforcement of the Act in its present form may be deemed adequate for consumer protection, basing this opinion upon the analysis of the four specific cases which the Food and Drug Administration considers relevant to the issue. I venture to suggest that the amendment under discussion will not entirely prevent "accidents" in the future, any more than it would have prevented the four cases listed by the F.D.A., had any pertinent legislation been in effect at the time when these cases occurred.

Be that as it may, I feel that as chemists engaged in the cosmetic industry, we cannot help taking a critical view of expert testimony which casts an unfavorable light upon our industry and upon ourselves by implying that we are negligent in the matter of protecting

the public health in that we permit the use of injurious materials in the preparations marketed by our respective companies. It is up to us to see to it that the true facts in this matter be made known to all concerned.

Ingredient Manufacturer's Analysis*

KENNETH MULFORD
Atlas Powder Co.

DURING the past year the Delaney Committee, which Mr. Kleinfeld so ably serves as counsel, has been studying the chemicals-in-food question, primarily with a view to determining whether present laws on this subject are still adequate. The cosmetic industry now finds itself subject to the same inquiry with respect to chemicals-in-cosmetics.

Certainly no one questions the right and responsibility of Government to protect the health of our people. Industry shares equally in that vital job. Some witnesses before the Delaney group have suggested that Congress give consideration to amending the Federal Food, Drug and Cosmetic Act to require that any chemical ingredient must be approved by FDA as to safety before it is used in any food product.

The Food and Drug Administration has submitted a tentative draft of such a "prior approval" amendment and has recently suggested that prior approval should also be applied to cosmetics. The basic idea of "prior approval" involves consideration of three general, but closely inter-related, aspects of the subject—first, proof of safety; second, the levels and methods of usage factor, and third, the issue of technological usefulness.

Certainly, no right-thinking individual can quarrel with the principle of testing new ingredients prior to public usage. All firms recognize that their fate is dependent on consumer protection. Therefore, it would seem to be a simple matter to reach agreement on a legal requirement for pre-testing. Actually, however, it is exceedingly complex. And let me here turn to the analogy in the food field.

Nothing is safe under all possible conditions of exposure or use. Despite this, some have held that no

new chemical should be added to food until it has been proved in advance to be completely harmless or safe for continuous use over the human life span. The cosmetic industry may be faced with similar criteria.

If the advocates of such a viewpoint are using these terms in the absolute sense, without taking into consideration that safety is a relative matter, then the comments of Dr. Bernard L. Oser, Director of the Food Research Laboratories, Long Island City, N. Y. are pertinent. Speaking before the annual meeting of the Institute of Food Technologists Dr. Oser said:

"The standards of safety implied in these statements are unrealistic because they are humanly and scientifically impossible to comply with . . . Such ultimate proof of safety demands knowledge of all possible deleterious effects . . . The day is not in sight when such proof will be possible. Furthermore, how could one logically justify requiring it only on behalf of new chemicals, but not for all chemicals or for foods themselves, for that matter?"

It is obvious, therefore, that to make an affirmative showing that a material is "safe" would be extremely difficult, if not impossible.

Eminent scientists tell us that virtually all substances, when consumed in sufficiently large quantities, are toxic—i.e., they produce harm. Likewise, irritations are related to concentrations and methods of use. Considerations as to levels and methods of usage, therefore, may well be the heart of the "pre-testing" problem, although frequently they seem to be overlooked in public discussions.

Actually, when a chemical manufacturer develops a new chemical, it is impossible for him to foresee all the potential uses for his product. Many times he has no idea that it might be found useful in cosmetics. It is only after researchers investigate and find the chemical useful in cosmetics that we can move ahead to a solid toxicological testing program. Not until then will we have the clue to the all-important elements of manner and levels of use.

Since it is the finished cosmetic which is marketed to consumers, the primary responsibility for safety rests with the cosmetic manufacturer. Nonetheless, the chemical manufacturer is deeply cognizant of his obligations, moral or otherwise, to provide the processor with a good, non-harmful product. In practical effect, what generally has occurred

is a joint venture by the cosmetic and chemical companies to make certain that the end product for the American consumer is safe, the chemical manufacturer testing his ingredient and the cosmetic manufacturer his final composition.

Both chemical, food and cosmetic manufacturers rely upon competent scientists to develop the pharmacological evidence needed to sustain harmlessness. However, when one group of reputable scientists views data as sufficient and another group of equally able men tends to discount this work as insufficient, who is to resolve the scientific controversy and outline the right path? This is the kind of dilemma which has confronted the food industry and in the absence of generally accepted testing criteria will undoubtedly confront the cosmetic industry.

My final area of discussion concerns technological usefulness. By this I mean the relative usefulness of the chemical in improving the cosmetic as well as its production and processing. This is an important consideration, for recently the thought has been advanced that the technological usefulness of a proposed additive to food must be fully established before the safety issue is considered. Perhaps this philosophy will also develop in the cosmetic field.

The immediate question arises: Assuming the final product is in compliance with existing law regarding adulteration and misbranding, who is to decide whether the new additive serves a proper function—a Government Agency, a Public Advisory Group, Industry or the Consumer?

In actual fact, it is your cosmetic technologists who initially find that a new chemical has some usefulness. However, neither the technologists nor the cosmetic manufacturer can ever be certain that the cosmetic containing the chemical is really useful until it is subjected to the ultimate test—consumer acceptance.

Writing in the Department of Agriculture Yearbook for 1950-1951, Dr. Callie Mae Coons significantly points out, "Consumer acceptance implies more than mental response or stated preference . . . It denotes action, with an opportunity for rejection, which may take place in the market, at the testing time, or after a series of experiences in using the product."

Would "prior approval" signify the possible denial of consumer freedom of choice because some government body decides that a new

(Continued on page 44)

* Abstract of address before Society of Cosmetic Chemists, Dec. 5, 1951. Adapted from a paper entitled "Practicality in Regulation of Chemicals in Foods Problem" read before Division of Food, Drug and Cosmetic Law of the American Bar Association.

Practical Emulsion Formulation*



The trend for preparations of the vehicle variety to become more complex creates problems which may be solved by the growing number of synthetic emulsifiers and other surface active materials.

I. R. HOLLENBERG¹

IT is the purpose of this article to indicate briefly a practical approach to the subject of cosmetic emulsion technology.

In general, emulsions may be said to consist of a dispersion of exceedingly small droplets of a liquid in another equally immiscible liquid. The term oil-in-water emulsion is, therefore, applied to those emulsions in which oil is dispersed in an aqueous medium. Conversely, where water is the dispersed liquid, the resulting suspension is classified as a water-in-oil emulsion. Most cosmetic emulsions fall into the former category; they include vanishing creams, cleansing creams, cold creams, skin and hand lotions, deodorant creams, etc. The so-called tissue, or nourishing, creams are, as a rule, however, water-in-oil emulsions. Emulsions may further be classified into the liquid or solid type. The solid emulsions are formed by oils or fats that are liquid when heated but which solidify when cooled to room temperature.

Another means of differentiating emulsions other than by phase classification or consistency is in terms of function. We use the terms "non-vehicle" and "vehicle." Perhaps the simplest way to define these types is by illustration. Although the terminology is admittedly somewhat cumbersome, it is believed that the meaning will become clear. The vehicle type emulsion may be described as an emulsion which in itself does not exert a cosmetic effect, but acts as a carrier for the cosmetic agent. As an example, we may cite suntan, deodorant, and make-up creams. In these preparations, the emulsion is merely used as a vehicle for the astringent in the deodorant cream, the ultra-violet absorbent in the suntan cream, or the pigments in the make-up preparation. The non-vehicle type may be characterized as an emulsion whose basic ingredients—fats, oils, water, etc.—give the desired cosmetic effect. Among the non-vehicle preparations are cold or cleansing creams, hand lotions, night creams, etc. For example, in a cold cream the evaporation of the water phase on the skin surface gives the characteristic cool-

ing effect. The ingredients of the oil phase afford the desired cleansing, lubricating, and emollient effects. The non-vehicle type emulsion is comparatively easy to formulate and does not present the problems characteristic of the vehicle type.

Non-vehicle Preparations

In Fig. 1 are listed a dozen ingredients which are commonly used in the non-vehicle creams. It will be noted that these formulations have a good deal in common, not only as far as ingredients are concerned, but also in the methods of manufacture. With the exception of tissue or night creams, all are emulsions of the oil-in-water type and are handled somewhat as follows. The fatty materials are placed in a jacketed vessel and heated and stirred to around 75-80° C., until melted. They are then stirred into another similar vessel containing a solution of the aqueous ingredients, which have been heated in a like manner, usually at a temperature that is about 5° higher. Stirring is continued, rather rapidly, until the temperature drops to around 30-40°. Solid creams may be perfumed and packaged at this temperature. Liquid creams, on the other hand, are stirred until completely cooled.

The general procedure for preparing water-in-oil emulsions is somewhat as follows. The fatty materials are stirred and heated together in a jacketed vessel until melted, and the temperature then regulated to around 45-55° C. The aqueous ingredients are placed in solution and heated to around 55-60° C., or in any event, 5° more than the oil phase. The aqueous solution is then slowly stirred into the oil phase. To avoid phase inversion, each succeeding portion is added only after the previous portion has been emulsified. The resulting emulsion is stirred with relatively slow agitation until completely cooled. It is widespread custom to homogenize water-in-oil emulsions by running them through a colloid mill or similar device for reducing particle size. This procedure is also used, in some instances, for oil-in-water emulsions, but it is not the general practice.

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¹ Van Dyk & Co.

It is seen that emulsions of this category are not too difficult to formulate and that some general rules may be laid down as a guide. The following, although admitting of exceptions, have served the writer for a number of years:

1. The volume (or weight) of the disperse phase should be greater than that of the dispersed phase.
2. All of the ingredients of either phase must be miscible with the other ingredients of that phase.
3. If the stability of an emulsion is dependent on homogenizing or similar specialized mechanical handling, it should be reformulated because it is basically unstable.
4. When other factors permit, it is preferable to formulate an oil-in-water rather than a water-in-oil emulsion.

Vehicle-type Preparations

The vehicle-type preparations do not admit of the generalizations regarding formulation or manufacturing procedure noted for the non-vehicle types, as the emulsifiers used are more complex and highly specialized. In addition, the additive which gives the desired effect is a stranger to the emulsion scheme and the question of compatibility therefore arises. The task of incorporating the additive in the emulsion is the essence of successful formulation in vehicle-type preparations of this category. We will take the astringent deodorant cream as an example of this type of preparation, and of the difficulties to be encountered. The function of an astringent deodorant cream is to act as a vehicle for the astringent material—usually an aluminum salt. The aluminum salt is said to react with the skin protein and form an aluminum albuminate, the resulting coagulant closing the openings on the skin surface and acting as a bar to epidermal excretions at the site of application. The vanishing cream type of deodorant has gained in popularity and seems to be the most acceptable from the consumer's point of view.

Even at this time, cosmetic formulators new to the problem ask if it is possible to simply add the required

amount of an aluminum salt to a standard vanishing cream. Of course, when the ingredients of this type of cream are examined we know that this method is not possible. A concentrated solution of highly acidic salt, such as aluminum sulfate, will break the conventional type of vanishing cream formulated with potassium, or sodium stearates or other saponaceous emulsifiers. Nor will the various glycol or glycerol esters of stearic or other fatty acid do the trick, inasmuch as their emulsifying properties are dependent upon the presence of soap. However, acid stabilized emulsifiers have been developed, some specifically for this particular application. These may be broadly classified into three groupings: the sulfated, the amide, and the non-ionic types. In some cases, these emulsifiers are used in conjunction with glycerol or glycol stearates, etc., or even in combination with each other. Representative astringent cream formulas are shown in Fig. 2. With these highly specialized emulsifiers it is possible to formulate stable creams containing sufficient quantities of aluminum or other astringent salts to adequately inhibit the flow of perspiration.

However, there are other aspects of the problem of deodorant cream formulation. All of the commonly used astringent salts, to a greater or lesser extent, have a destructive effect upon fabric, particularly cotton; so that when the user's garment is laundered it is often found that the fabric is completely destroyed near the site of application. It is, therefore, desirable to have a deodorant cream formula contain an inhibitor, which will lessen the tendency of the astringent material to attack fabric. Carbamide, or urea as it is commonly known, which has lately been the subject of some prolonged patent litigation, is widely used as an inhibitor. There are other materials which exert a similar effect.

Some of the more complex amides, for instance, do a good job in very much lower percentages than carbamide. For this reason, it has been suggested that the amide-type emulsifiers are particularly suitable for use in deodorant creams. In some instances, they are used in conjunction with emulsifiers belonging to the other two types as emulsion stabilizers as well as inhibitors. However, it should be noted that while these materials tend to inhibit the fabric-destroying properties of the

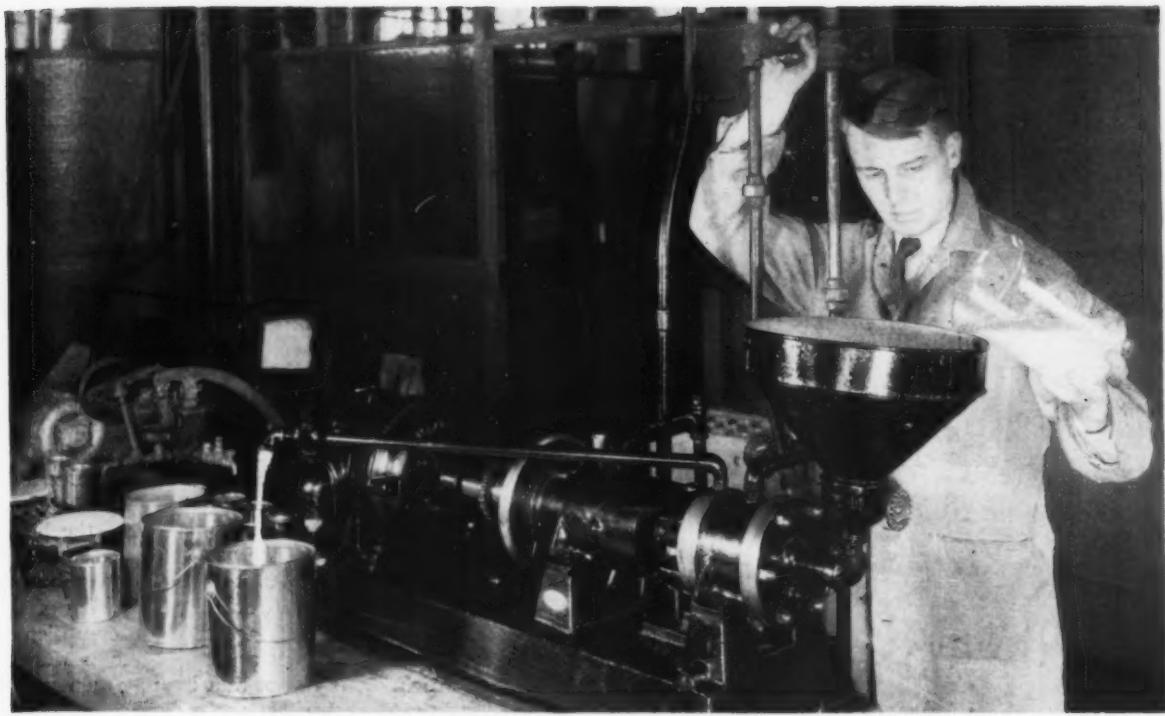
	Water	Alkali (Borax Caustic Am- ines, Etc.)	Oil (Min. or Veg.)	Beeswax	Stearic Acid	Cetyl Alcohol	Landolin	Absorption Base	Gum	Glycerol or Gly- col Stearate	Humectant (Glyc- erine, Etc.)	Petrolatum
Cold or Cleansing Creams												
A	29	1	55	15	..	1	..	..	..	..	..	..
B	35	1	50	10	..	..	..	..	..	..	..	..
C	55	..	20	..	..	..	2	15	3	2	5	..
Vanishing Creams												
A	65	2	..	25	..	..	..	..	..	..	..	..
B	67	2	..	20	1	1	..	..	..	..	..	..
C	55	1	5	..	2	..	10	25	2	1	..	..
Tissue or Night Creams												
A	40	..	25	5	3	10	10	..	..	..	..	..
B	40	..	27	5	3	..	25	..	..	..	..	..
C	55	1	5	..	2	..	10	25	2	..	..	..
Cream Lotions												
A	88	1	1	3	1	..	1	..	..	5	..	..
B	90	1	..	2	..	1	1	..	..	5	..	..
C	94	..	..	1	..	..	1	..	1.5	2.5	..	..

Left:
Figure 1.—Non-vehicle type creams.

Right:
Figure 2.—Typical astringent deodorant creams.

	1	2	3
Emulsifier	18*	5†	11‡
Stearic Acid	..	15	..
Cetyl Alcohol	1.5	3	6
Petrolatum	1	3	..
Glycol Stearate	..	..	8
Mineral Oil	2.5	..	..
Carbamide	5	..	..
Humectant	3	3	..
Water	53	52	59
Aluminum Salt	15	18	15
Titanium Oxide	1	1	1

* Sulfated. † Amide. ‡ Non-ionic.



The modern homogenizer is a necessity in all well equipped cosmetic plants.

aluminum salts, there is much evidence to indicate that they also inhibit the astringent properties almost proportionately. It is therefore necessary for the formulator to strike a balance between the inhibiting properties in relation to fabric destruction and inhibiting factor as affecting the astringent properties of the aluminum salts. Thus, we see the principle of balance or compromise being applied to cosmetic formulation. It is an important principle and is widely applied.

Opposing Forces

Many cosmetic preparations are classic examples of the combination of opposing forces. The measure of the skill and "know how" of a cosmetic technician is often his ability to achieve this balance. We can carry this concept a bit further in the same type of preparation. The higher the percentage of active ingredient, i.e., astringent material, a deodorant cream contains, the greater its astringent properties, and the more effective will it be as a deodorant preparation. However, we have already noted that we cannot employ any desired percentage of aluminum salt: first, because of emulsion stability; second, because of its effect upon fabrics. A third factor to be considered is the limit of solubility of the aluminum salts. Aluminum sulfate, for example, is quite soluble in water; but it is insoluble in most of the other commonly used ingredients. Since it is necessary for these other ingredients, emulsifiers, etc., to be present in order to form an emulsion, we have available only about 60-65 per cent of water, and in many instances the solubility of the aluminum salts is decreased by the presence of the other ingredients. In any event, we end up with a preparation

containing a fairly concentrated solution of aluminum salt: in many instances, a saturated solution. Deodorant creams must last for some time, both on the shelves where they are sold and in the hands of the ultimate consumer. During its shelf life and while it is in use, there is bound to be a certain amount of evaporation of the water content from the surface of the cream, resulting in crystallization of the aluminum or other astringent salt. This development makes the product objectionable in appearance and unsuitable for use.

It has been demonstrated that it is necessary to have a sufficient amount of active ingredient (astringent) to exercise the primary function of a deodorant preparation, i.e., inhibit the flow of perspiration. The greater the amount of astringent salt, the larger the percentage of emulsifier, stabilizer, or inhibitor required. But, the greater the amount required of the last three mentioned ingredients, the smaller the amount of water available as a solvent for the astringent salt. Hence, the need for balance or compromise.

So far, only the formulation difficulties inherent in a typical vehicle emulsion, such as a deodorant cream, have been dealt with. Using the same example, the astringent deodorant cream, it may be of interest to note a few of the manufacturing problems incurred. Employing again, as we must, a general procedure, we note that the fats and oils are often heated together at around 75-80° C., and then stirred until an emulsion is formed. This emulsion is stirred continuously until cooled, when it resembles a rather stiff vanishing cream. The aluminum salts and other inorganic materials are then added very slowly until dissolved or dispersed. This procedure is critical and somewhat tricky, inasmuch as the addition of the astringent salt

results in a rise in temperature, which must be controlled by the introduction of water in the cooling jacket of the mixing vessel or other suitable means. This, together with other factors, might result in an immediate breaking of the emulsion and the spoilage of the particular batch. After the salts are added, the cream is ready for the introduction of perfume, which is added rather slowly in order to insure complete mixing. Titanium oxide is usually included in formulations of this type. For this, and other reasons, it is often considered advisable to mill the entire cream in order to insure distribution of the inorganic material. Here again a note of caution is advised; the peculiar nature of the materials tends to dull the surface of the milling machinery, even after only one run, particularly when colloid mills are employed, where clearances are rather close.

Conclusions

In view of the foregoing, it would seem that hardly any of the broad generalizations which were applied to the preparation of emulsions of the non-vehicle type can be applied to those of the vehicle variety. Each product in this category has to be considered as an individual problem. The trend, if anything, is for preparations of this sort to become more and more complex. Fortunately, there is an ever-growing number of materials available to which the cosmetic technician may look as a means for solving his problems. These materials are not only increasing in number and variety; they have become more uniform and standardized than they were only a few years ago.

The S. C. C. Convention

(Continued from page 28)

astringent, method of application, orientation of the skin or the type of tracer employed.

Test Methods to be Developed

"These uses are admittedly sketchy, but they are forerunners of test methods, yet to be developed for determining cosmetic effectiveness.

"Using, say Carbon₁₄, can you imagine tracing diffusion of an aromatic chemical such as vanillin, terpineol, or ionone; or evaluate the fixative properties of a compound that is synthesized with a labelled Carbon; or judging a commonly used fixative to which is added a labelled aromatic. It is intriguing to contemplate.

"Imagine estimating the cleansing properties of a cream by a Geiger counter that picks up residues containing applied or ingested "labelled" organic or inorganic substances.

Baldness

"What is the cause of baldness?

"If we knew the answer to that question, we might be able to find a cure, for the causes of baldness are many. Among them are heredity, age, sex, hormonal imbalance, diet mode of living, condition of the nervous system and skin secretions to name some.

"Squalene, a normal component of sebum, is found to cause baldness in animals. Cholesterol, another com-

ponent of sebum is suspect. Unsaturated fatty acids of the oleic acid series are mistrusted. Androgens applied locally cause hair to fall out. Estrogens when applied locally to animals have both produced increased hair growth as well as caused hair to fall out. Similarly, fraction of ACTH have also produced both growth and hair falling. Some still say that members of the vitamin B complex benefit hair growth and color, and so it goes.

"Recently Light published his analysis of a pattern baldness concluding that the number of hairs, the age of the individual, and the amount of infiltration of the connective tissue were all related, though he did not determine the cause of infiltration.

"Nineteen addresses were presented in 1950 at a conference on hair held at the New York Academy of Sciences; all the papers were later published as a book under the title, "The Growth, Replacement and Types of Hair." In summary, the experts told of many things they knew, but the cure for baldness remains elusive.

"About the same time Szasz and Robertson, both psychiatrists, published a critical review of the literature and voiced a theory of the pathogenesis of ordinary human baldness. Their view is that "ordinary human baldness is the result of chronic hyperactivity of the scalp muscles." The authors suggest an interruption of this chronic scalp activity as a prophylactic measure.

"All of which is fine except that balding men cannot buy a bottle of something at the corner drug store to stop receding hair lines.

Silicones

"Dr. Ralph Evans, your medalist of two years ago, in a later trade press article, touched on the possible new horizons opened by the silicones. Being inert, at once suggests application in products that break down due to heat, acidity, alkalinity or cold. Some are infinitely water repellent. Others are so poorly soluble in any solvent that special uses are easy to conceive. One family is exceedingly effective in breaking down foam and lather. It has already been used in some cosmetic preparations for almost five years.

"Originally, silicones were developed for heat resistance, then cold stability. Their water repellent properties were suddenly discovered and another use developed. So it goes. The uses for silicones are just entering a fruitful era.

"Some cosmetic uses contemplated include:

1. Brighter finishes in molded products with easier mold release.
2. Water repellency in special products.
3. Coating glass to obtain best drain characteristics.
4. Pigment dispersion.
5. Higher gloss in coatings.

"One hand protective cream on the market contains a silicone as its effective ingredient.

"With only three U. S. producers at the beginning of 1951, there are some new ones coming in by next year. At that time there were about 400 patents covering the use of silicones. This number will be sharply increased during the next few years.

"The present high price of silicones precludes some considerations. But newer methods already in use portend further reduction in price; when this happens, will you be ready to take advantage of it?"



Geranium Harvest Completed

Prices quoted in various producing centers. . . . How geranium rosat is cultivated and distilled. . . . Important quantities of geranium essence to be produced in Morocco.

AUG. J. HUGUES

ANNUAL treatments of flowers and aromatic plants end in Grasse by collecting and distilling the Geranium.

The variety cultivated here, the Geranium Rosat, belongs to the family of the Geraniaceae and is native of the Cape of Good Hope. It is commonly called Mauve Rose and is supposed to be a hybrid of the Pelargonium Graveolens growing in Algeria. It is a perennial plant in form of large round shaped clumps, reaching three feet in height and diameter.

The cut leaves are crisp and heart shaped and emit when bruised, a very strong odor. They are covered, as also the stems with very fine bristles. The flowers, disposed in umbels, have pink petals, some having blood red stripes.

The culture of the Geranium Rosat seems to have been introduced at Pegomas, on the French Riviera, by the middle of the 19th century. Around this town, the rich alluvial soil of the lower part of the river Siagne valley proved to be quite suitable to this culture, which, later on, was extended to Villeneuve-Loubet in the alluvial soils of the mouth of the river Loup. The quality of the essence is most influenced by the nature of the soil and climatic conditions. Exposure altitude and sunlight have a marked action, not only on the quality but also on the quantity of essence. The plant suffers from the slightest frosts and cultures must be protected from

the Western and Northern winds. The light, or slightly calcareous soils, fresh during summer and irrigable, are the best, as drought prevents the normal development of the leaves.

Cultivation

Plants are set in place just after the April frosts at a distance of approximately three feet in square corresponding to 6000 to 6500 plants to the irrigable acre. In the non irrigable, but sufficiently fresh soils, these distances may be reduced, allowing to place as many as 11,000 plants.

They quickly develop and cultural works start about a month later, hoeings and weedings at first and then a ploughing in early summer to do away with weeds. Irrigation takes place every two weeks taking care that water does not stand. Fertilizers used vary according to the nature of the soil, how it was fertilized before, and the irrigation conditions. Usually, determined proportions of dung and chemical fertilizers are used, either at the time of the plantation or in Autumn, in furrows between the lines of plants. Plantations are usually done with nursery rooted cuttings, sometimes with mere cuttings taken from the plants in vegetation. Most farmers prepare these cuttings themselves, and it is only when they get short or in case of failure that they have to deal with specialists whose nurseries are situated at

Erbalunga in Corsica, the most important center for this sort of trade.

The Geranium is little subject to diseases, and the different pests, so harmful to other perfume flower plants, do almost no damage to it, specially if care has been taken to choose the cuttings only on healthy plants and to watch the nurseries carefully. Sprays of copper salts and flower of sulphur are used, when necessary.

Harvesting of the crop takes place in October-November, plants being cut with a scythe, in the evening, in order to prevent their leaves from drying. They are then tied up in bundles and immediately taken to the factories in nets, as great care must be taken that they do not warm up. This, together with too many manipulations, would more or less destroy the leaves.

Essence output, as already said, varies according to the methods of culture, the quality of the soil, irrigation and especially the way the plants are cut, with more or less long stems, the essence being contained in the leaves only.

Distillation

Old style distillation is not used any more; factories proceed with a heating worm and very little water at the bottom of the still, plants being in a metal basket over the water. A little over 500 lbs. of stems and leaves produces approximately 1 lb. of essence.

Geranium is also distilled in Algeria, Corsica and Spain and also at the Reunion Island

In Algeria, it was first introduced in 1847 at Cheragras, by farmers who had come from Grasse, but it was only ten years later that Antoine Chiris, building an important distillery at Boufarik, created the development of this culture.

Large surfaces were planted, extending to 2000 acres in the lower open fields of the sea side and of the Mitidja.

Unfortunately, the production of these centers has considerably lessened during the past years, and the essence, which could be found in abundance on the market, is no longer sufficient for still numerous and important needs.

While lots of plantations have disappeared in Algeria, where they are replaced by vineyards, early vegetables and fruits or orange trees and, in Grasse, by cultures of fruits and vegetables, new plantations have been started in the Belgian Congo, in Morocco and Tanganyka, and the essences produced in these countries are already on the market. Their quality is excellent, but it will be difficult to replace the essence produced in Grasse.

More fragrant and powerful, also nearer the Rose essence, it remains much in demand for de luxe preparations, in spite of its high price.

Chemical specifications and odor of the essence of Geranium vary according to its origin. The essence produced in Corsica is the nearest to the Grasse quality: same gravity and rotary power. Then comes the Spanish which, however, has a little more acidity.

The constituents of the different essences are practically identical, but their proportions of course vary.

Regarding the market for these essences, it is difficult to have an opinion as quotations for any of them depend upon factors which have no relation with their

real production. Essences from Algeria and the Reunion Island have become speculative items as exact information is not available.

Present Market Prices

Prices at present are as follows:

Algeria	19.000.— francs per kilo
Bourbon	17.500.— francs — —
Morocco	20.000.— francs — —
Belgian Congo	15.500.— francs — —
Tanganyika	13.500.— francs — —

Forty-five years ago the prices of the two first ones were respectively: Francs 30.—per kilo with a total export of 50 tons and Francs 28.—with 40 tons.

In 1938, the production was:

Algeria	35 tons
Bourbon	107 tons
Belgian Congo	3 tons
Morocco	1.7 tons

The Grasse essence is no longer found on the statistics, its importance not being considered.

It is interesting to note that Morocco will be able to produce in a very near future important quantities of Geranium essence.

Bibliography

The botanical origin of the Geranium Rosat remains uncertain. E. Sauvaigo writes in "The cultures of the Mediterranean Coast"; The Geranium Rosat seems botanically to be the Pelargonium Capitalum. Ch. Riviere (Cultures of the South) says that the real denomination is not yet fixed and that the opinion of the Geranium Rosat being a hybrid of the Pelargonium Graveolens (cf. A. Rolet "Perfume plants") is not proved.

As regards its origin, (from the Cape of Good Hope) Mr. Compton, professor of Botany at Capetown University, declares that it is only in Grasse that he has seen the real Geranium Rosat and believes it to be a hybrid of the P. Graveolens et P. Odoratissimum.



"Every January I worry about what silly cosmetic fads my competitors thought up that I didn't!"



T.G.A. Scientists Meet

Rating of perfumes and cosmetics, evaluation of odors and flavors by panel technique, the cosmetic stake in pharmaceutical education among interesting topics discussed.

TWO well attended sessions of the Scientific Section of the Toilet Goods Assn. listened to some interesting, highly informative and relevant technical papers at the mid-winter meeting in the Waldorf Astoria Hotel, New York, December 5.

The reception committee of the section was composed of Arthur A. Mulligan, chairman; Robert A. Armstrong, Henry Bashwiner, Hans W. Maucher and William A. Wieners. Officers of the section are: Honorary chairman, Dr. F. J. Austin; Chairman, Dr. E. J. Masters; Vice Chairman, Dr. Donald H. Howers; and Permanent Secretary, H. D. Goulden.

Papers read were: "The Certified Axo Colors in Cosmetics," Dr. Samuel Zuckerman, H. Kohnstamm & Co.; "The Cosmetic Industry's Stake in Pharmaceutical Education," Veronica Lucey Conley, Committee on Cosmetics, A. M. A.; "Efficacy of Hexachlorophene in Toilet Goods Preparations," Dr. H. J. Spoor and Dr. E. F. Traub, New York Medical College; "A Study of the Immediate Effects of Brushing the Teeth with a Chlorophyll Toothpaste on Odors Originating in the Mouth," R. E. Tenney, Procter & Gamble Co.; "Reliability of Women's Rating of Perfume and Factors Affecting Such Ratings," Bernice M. Wenzel, Barnard College; "The Evaluation of Odors and Flavors by a Panel Technique," Kurt S. Konigsbacher and William H. Danker, Evans

Research & Development Corp.; and "The Catalyst Theory of Olfaction," Jerome Alexander.

Effects of Age on Skin

A PROCEDURE has been developed to study the effects of topical application of soap and creams on oiliness and scaliness of skin surfaces. Since strictly objective methods are not feasible, steps were taken to make subjective methods as efficient and reproducible as possible. The procedure was designed to show more munutia, minimize observer and subject fatigue and to control other conditions under which observations were made. A photographic procedure provided a permanent reference to actual skin conditions. The results confirmed the efficiency of the procedure.

Distinct differences in skin were apparent between the young, the middle aged and the senile age groups of the women in these studies.—*Sture Johnson M. D., Roy Kile M. D. and J. C. Fix, B. S. in paper before T. G. A.*

Women's Ratings of Perfume

THE question of a woman's tendency to be consistent in judging pleasantness of a perfume was investigated in this experiment. Twelve different perfumes, an



Left: Robert F. Schuler, Sabbat J. Striane, Fred Shoninger, Stephen Capkovitz and Dr. Saul A. Bell chat about the papers. Right: Dr. Dan Dahle, M. G. deNavarre, Harland J. Wright and Dr. E. G. Klarman.

expensive and an inexpensive representative of six different types, were used as stimuli. Subjects were instructed to judge each one as pleasant or unpleasant according to specific criteria. Each subject did her judging individually and repeated it in eleven different days after the first one. The perfumes were presented in a different order each time. In addition to varying the type and cost of the perfumes, the subjects were selected to form three groups on the basis of frequency of use of perfume, toilet water, and cologne.

Results showed that the subjects tended to be consistent in finding a perfume pleasant or unpleasant. The number of pleasant responses varied with the different types used, with the cost level, and with the subject's history of perfume use.—*Bernice Wenzel before T. G. A.*

Catalyst Theory of Olfaction

OUR five senses—touch, taste, smell, sight, and hearing—through which we receive quick-acting impressions from the outside world, are all highly efficient mechanisms for transposing various kinds of incoming material contacts and vibrations into the one and only type of message which the brain can receive and utilize, namely, electronic nerve impulses. Radio waves, of which we are unconscious, can be converted by receiving sets into sound and pictures; but these, in turn, must be converted by our sense organs into nerve impulses before they can reach our consciousness. Just how nerve impulses become known to us as definite sounds, pictures, smells, tastes, "feels", etc., is still an enigma.

Smell and taste are commonly called the "chemical

senses". Besides the olfactory organs, there are in the nose endings of the trigeminal nerves concerned with the "common chemical sense." These are sensitive to mildly irritating vapors, which often cause mild pain and strong reflex effects (sneezing, coughing, tears). Any theory aiming to explain olfaction, must account for two basic facts: (1) Vanishingly small weights of material can activate the olfactory organs; (2) The message sent to the brain is highly specific.

However, very tiny weights of material contain *gigantic numbers of molecules*. For example, according to Herbert Freundlich, if every molecule of water in a quart of pure water were marked "X" for identification, and this quart was then mixed uniformly throughout all the oceans of the world, down to the depths, sample quarts taken anywhere could contain on the average 20,000 molecules marked "X." Therefore when a wind blows over you, a deer a mile away "down the wind" may sniff up a great many specific molecules. But how can these minute traces of substance be so amplified in their effects as to send to the brain an electronic nerve impulse specific to the chemical and physical nature of these molecules?

My theory is that the amplification as well as the specificity of the effect are due to a catalyst mechanism. The *chemistry* (chemical turnover) of the olfactory cells is changed transiently but specifically, as the incoming molecules specifically alter the biocatalysts, and the specific nerve "telegram" to the brain is thereby established. In effect, this is a type of "trigger" action, greatly amplifying the effect.



Left: Paul Lelong, William H. Adkins and Victor Marquis enjoy a joke by Ben Friedman. Right: Herbert Linne, Gus Kass, I. R. Hollenberg and Dr. Melvin A. Goldberg snapped during a moment of relaxation between sessions.

To give an idea of the kind of nasal "reception committee awaiting the incoming molecules", let me say that A. C. Allison and R. T. T. Warwick (*Brain*, 1949) found that each nasal epithelium of 3 to 4 months old rabbits had about 50,000,000 receptor cells, which in the olfactory bulb converge upon about 19,000 glomeruli or dendrite clusters. Each glomerulus, therefore is responsive to 26,000 receptors, and in turn relays their story through 24 mitral cells and 68 tufted cells. The olfactory nerve axons arise chiefly from the mitral cells. To me these facts indicate that a considerable "sorting out" of the effects of incoming molecules probably takes place in the nose itself, just as George Wald and others have shown is the case in the retina (rode and cones, etc.).—*Abstract of T. G. A. paper by Jerome Alexander, M.Sc.*

Cosmetic Education

COLLEGES of pharmacy offer unique possibilities for meeting the singular educational requirements of cosmetic industry personnel. The narrow concept of pharmaceutical education as simply an end in itself



Left: Louis Kronish, Hans Wagner, Ernest Shifman, Dr. Otto Sobell, Lester Conrad, F. P. Feltz, Robert Mendoza, Julian Wetterhahn, Stephen Capkovitz and Dr. Jean Martinat. Right: Dr. Emil G. Klarman chats with Dr. Henry Wing, Dr. Victor Fourman and Dr. Sebastian B. Littauer of the School of Engineering, Columbia University.

should be discouraged. Pharmaceutical education provides a background peculiarly adaptable to further selective training and/or advanced formal education to provide industry with leaders, not only in scientific pursuits but also for managerial and administrative positions. When this is more fully recognized and practiced in the cosmetic industry, it will provide within firms the common ground of product knowledge among its executives, which is so necessary to harmonious relationships and an intelligent basis for consideration of purely business matters.

Cosmetic science does not exist as an independent entity but draws heavily on the physical and biological sciences for its distinctive character. Cosmetic art, for all practical purposes, can be acquired through a stimulated alertness to accepted standards of taste. However, the role of an intuitive sense of perceptive discretion in this aspect of cosmetic knowledge can not be disregarded. An educational background which will prepare or provide for these factors is desirable for successful training of future personnel. The curriculum of the college of pharmacy is structured so that the physical and biological sciences are correlated to form an educational environmental productive of not only the required techni-

cal knowledge but more important of the proper prospective.

The rapid growth of the cosmetic industry and changes in the concepts of pharmaceutical education are largely responsible for an apparent lack of awareness of opportunities for mutual assistance. The time is opportune for a pooling of interests through an assessment of the needs and aspirations of both groups. It is hoped that this brief review will offer a stimulus to progressive elements to explore the practicalities of more fully utilizing the pharmacy curriculum.—*Veronica L. Conley before T. G. A. Scientific Section.*

Hexachlorophene

THE bacteriostatic efficacy of hexachlorophene (G-11) has been quite well established when the agent is used in soap solutions or other aqueous detergent vehicles. We have recently tested under controlled use conditions certain G-11 containing mineral oil hand lotions, fat base deodorants and both aqueous and alcoholic vegetable oil hair dressings. Our experience indi-



cates that G-11 when used in the more oily preparations does not show as definite bacteriostatic activity as it does when used in water solution. In our opinion G-11 is somewhat effective against general skin bacteria in both oil and water based toilet goods preparations. When compared with results shown with G-11 soap solutions the material is less effective than expected. G-11 is apparently an effective staphylocide; it showed very little specific activity against the *Pityrosporon ovale* groups of organisms in vivo.—*Abstract of T. G. A. paper by H. J. Spoor and E. F. Traub.*

A MOTTO on the wall of a business executive reads: "I am a great believer in luck: I find that the harder I work the more I seem to have of it." And another above his fireplace reads: "He who chops his own wood gets warmed twice."

"A hobby is something to go nuts over, to keep from going crazy over things in general."—*Dean Noble, Syracuse University.*

NEW PACKAGING and PROMOTIONS



Shulton's new cream-perfume

SHULTON, Inc.'s advertising expenditures for 1952 will include magazines, newspapers and trade publications, and will be substantially increased over those of 1951. Separate campaigns have been scheduled for Old Spice men's line, Friendship's Garden, Desert Flower, Early American Old Spice, soaps and stick cologne. Old Spice shaving creams and lotion will continue to get year-around advertising with an increased campaign scheduled for 101 issues of ten top male readership magazines. In addition, a separate Father's Day Campaign on Old Spice shaving sets will consist of full color advertisements in eight magazines. Beginning in March, the biggest concentrated single campaign for Desert Flower to launch restyling of packaging for the entire line has been scheduled for eight top magazines. Full color advertisements will also feature Early American Old Spice women's line in eight top circulation magazines throughout the spring months. Full page black and white advertisements in three magazines will feature its soap line. Heavier advertising and promotion support will be given to its stick colognes, with full color advertisements in ten big circulation magazines between March 22 and June 20. Shulton will add a cream-perfume, Liquid Petals, to its Friendship Garden line. It is blue in color and the bottle has a matching blue plastic cap, flower encircled neck and gold decor. It is cartoned in an octagonal shaped package. Promotion will consist of full color advertising and in seven national magazines, window and counter displays. A special limited time promotion consists of a com-

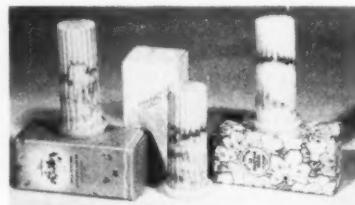
bination package of the regular Liquid Petals package and the four oz. size bottle of Friendship's Garden Toilet Water, regularly retailing for \$1.25, selling together for \$1.50.

HARRIET HUBBARD AYER is backing its Formulayér "line and wrinkle" cream with publicity implying that it protects skin from the corrugated paper look. The product retails for \$3.50 per 2 ozs.

TINTAIR is testing tie-ins of franchised beauty salons with its national radio commercials.

DERMETICS is introducing Creme Mascara, in three colors, at \$1.

HOUBIGANT is introducing a new purse size stick perfume. It comes in three fragrances, with the color of the case varying accordingly. All



Houbigant's purse-size stick perfume

have an onyx-like appearance and are sparked with gold. The product is priced at \$1.25.

TINTAIR's new hair tint product, Lightening Change, is featured in a two page story in the January issue of Glamour magazine.

PRIMROSE HOUSE is offering its seven oz. Chiffon Cleansing Cream regularly a \$2 seller, for \$1 during January.

SALES BUILDERS, Inc. is preparing to conduct the biggest advertising and promotion campaign of Max Factor products in its history in 1952.

ESTEE LAUDER is introducing Estoderme Youth-Dew, described as a cream without hormones, containing whole eggs.

PARFUMS CORDAY is introducing Toujours Toi in a similar bottle as used for its Toujours Moi, with 22 karat gold leaf and with a stopper laced in gold. It is priced at

\$35 per ounce, \$18.50 per 1/2 ounce, and \$5 per dram. Eau de parfum sells for \$5 per two ozs., \$9.50 per four ozs. Corday's newest packaging innovation is a gilt box with a padlock, available in the one ounce sizes of Toujours Toi, Toujours Moi, and Fame; the one-half ounce size of Toujours Toi, and for \$2 additional in the three-quarter ounce size of Zigane, regularly retailing for \$15. Corday is marketing for a limited time a sample package with Toujours Moi, Fame, Zigane and Jet perfumes for \$2.50.

HAZEL BISHOP will introduce Complexion Glow with a \$2,000,000 advertising and promotion campaign, beginning January 15.

CAMPANY SALES CO. is sponsoring a new five-minute series over C.B.S. radio, "Sunday News Special." The concern also sponsors a five-minute newscast on Saturdays.

TONI COMPANY sponsored its fourth annual Twin Baby Derby. Girl twins born between midnight and noon New Year's Day were eligible to receive \$500 worth of gifts.

LEHN AND FINK's Hinds Honey & Almond Fragrance Cream has been repacked in a new squeezable plastic



New Hinds package

bottle. A small counter demonstrator invites free trial by the shopper.

LENTHERIC is adding Hand Lotion Concentrate to its Sheer Beauty Cream-Mist line. The container is a blue plastic squeeze bottle with



Lentheric filigree purse flacon

a pink cap. The lotion is intended to be dispensed two drops at a time, which are said to be sufficient for hands and wrists. It retails for \$1 per 2.7 ozs. Red Lilac and Tweed are now being marketed in a refillable purse flacon of gold-tone metal with a filigree. The aperture has been so devised as to dispense as little or as much scent as desired. The Red Lilac sells for \$2, the Tweed for \$2.25.

STUART, INC. is distributing rayon satin Scented Scuffies in a matching travel-case and boxed with a transparent cover. The product comes in three sizes and six shades. The price is \$2.50 per pair.

toki's God of Mischief scent comes in toilet water, at \$2.50 per 4 oz., and in perfume, retailing for \$2 to \$12.50.

REVLON is offering combination packages of Aquamarine Lotion and its new fragrance products, Aquamarine Mist. The five-ounce size of lotion plus the one-half ounce size of Mist sell together for \$1, the regular price of the lotion alone. Sixteen ounces of lotion, a \$2.50 seller, plus one oz. of Mist also sell for the regular price of the lotion alone. Revlon has added two new shades, Red Apricot and Pink Caviar, to its line of A la Carte lipsticks. In grooved gold-toned cases, they sell for \$2 each.

ELIZABETH ARDEN is introducing Ardena Special Hormone Cream, an

estrogenic product retailing for \$3.50 per two ozs., \$6.50 per four ozs., and \$12 per eight ozs. Beginning February 11, Arden will market its creams, lotions, and oils in combinations entitled "Precious Pairs," banded together with ring and ribbon. National and cooperative advertising, window and counter display cards and booklets for over the counter distribution will be employed. Another Arden promotion centers around its De-Luxe Beauty Box, retailing for \$125.

GERMAINE MONTEIL's Lip-Cues, trial-size lipsticks, were the subject of an offer made in a recent issue of Mademoiselle. Response consisted of 45,000 individual coupon requests, with more requests still coming in. The offer consisted of a package of six Lip-Cues, each a different shade, for ten cents accompanied by the coupon.

PEPSODENT DIVISION of Lever Bros. Co. is marketing Shadow Wave, its new home permanent, in a Gair Co. carton with three-dimensional design, bearing the head of a woman.



Pepsodent's Shadow Wave

The home permanent and the refill kit each come in differently sized, but matching, cartons.

NESTLE-LEMUR introduces Colorinse and Colortint in 50 cent economy specials. Also new is Lite, \$1.50 non-ammonia hair lightener.

COTY introduces "Vitamin A-D" Complex Cream, which is said to disappear almost instantaneously upon application. The cream will be launched in a sample size given as a gift with every purchase of Cleansing Cream, Skin Freshner, Pastel-Tint or Sub-Tint, for a limited time from January 10th on. The regular size two ounce jar will be marketed at the same time for the price of \$2.50.

COLGATE-PALMOLIVE PEET CO. started a four-week national supermarket promotion on January 15 of Colgate-Ribbon dental cream, which it claims to be the largest selling brand item in the entire toiletries industry. Radio, television,

newspaper, magazine, and business publications advertising, as well as point of sale displays, posters, and banners will be used.

ERNO LASZLO CO. is preparing skin-care treatments with "tailor-made" creams and lotions, to be purchased through a department store club plan. The line of products will be limited to 15, and retail stores are being enrolled on a one-to-a-city basis, each with a quota as to the number of customers they may accept. Demonstrators will be specially instructed by three sales-training directors.

HELENA RUBINSTEIN and Charm Magazine are sponsoring a tie-in promotion, built around the cosmetics for working women theme, of Rubinstein's new Top Drawer Beauty Box, subject of a two-page feature in the January issue. More than 60 stores throughout the country are backing up the promotion with advertising, displays, and tie-in fashion shows. Retailing for \$4.95, the kit is made of simulated wood, with an imitation file-folders cover. It contains mirror, skin-cleanser, tissues, face powder, lipstick, mascara, nail polish, emery board and stick cologne; all liquid products packaged in spill-proof containers. The promotion is intended to boost Rubinstein refill business.

HELEN NEUSHAEFER is introducing Everon Indelible Creme Lipstick, containing lanolin, in 39 and 50 cent sizes.

HELENE CURTIS INDUSTRIES has changed its package designs and sizes for its Shampoo Plus Egg and Milky Shampoo. An expanded advertising and promotional campaign will follow. The new sizes



New Curtis shampoo packages

and prices are Shampoo Plus Egg and Milky Shampoo, 59 cents per 4 ozs., \$1 per 8 ozs. each.

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perfume specialties
BY
de Laire

Now... both the charm
and haunting loveliness of Parisian
Perfumes have been transplanted
to New York.

Now... de Laire Specialties
provide the creative perfumer with
new, original accords to lighten
and brighten the transitional stages
of making his composition a new,
distinctive perfume. de Laire
Specialties offer new odor values and
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PERFUME SPECIALTIES



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DIVISION OF
DODGE & OLCOTT, INC.

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WHAT THE

RETAIL BUYERS REPORT

Half-Price Turnover Attacked as Reducing Regular Sales as Customers Stock up Bargains

JEAN MOWAT

Chicago—Sign of the season: January-February half price sales are with us once more. One manufacturer stated these sales were costing him money. Yet last October he was busy packaging and designing the cards that would go into the stores for this event. It may be (?) a losing proposition to obtain a few new customers, but if so the preparation and plans are made long in advance with a definite purpose in mind.

Fail to Open New Accounts

"Whenever a half price sale is offered," said a leading buyer in Detroit, "it is the women who know the line who make the purchase. We rarely open new accounts on it. And those who do buy will purchase sufficient for a long time. While such sales are on the counter we find that regular lines of goods move slowly."

"The manufacturer has no one but himself to blame for this half-price mania. He introduced it to speed up business. Perhaps it did at one time, but now women demand half-price sales in all lines and the makers are tumbling over themselves to get into this business. If that is all the merchandise is worth," continued this buyer, "then it should be offered at that price throughout the year, and not as a come-on."

When a woman is really looking for a bargain the place for it is the super-market where the price of overhead of personal service to the customer was long ago discontinued. If makers must continue to feature the half-price events, why not make the idea acceptable to the super-market and permit the regular cosmetic department to continue handling the products on its regular program.

The super-markets and national grocery stores are now providing space for nationally advertised treatment lines: cleansing and skin products, shampoos, bath preparations and deodorants are offered in great profusion. Any day some of

these chains will connect up with a cosmetic maker and the chain will feature its own super-de luxe brand. It may attract new customers, but only at the expense of the regular cosmetic departments.

Several women buyers called our attention to this state of affairs. They are wondering what they could offer in the way of new products which would not compete, thus raising revenue. Some of the suggestions made were:

More attention to the sale of two items rather than one—such as lipstick with matching cheek rouge, or lipstick and powder; it might also be powder and foundation cream, or cream with cheek rouge. Giving the customer a personal service that no market or grocery can afford—that is help her to select the right foundation and the correct two shades of lipstick every woman needs.

These buyers are convinced that in time markets will offer a well known cologne, but the higher priced aromas and all perfume fragrances will continue to be the exclusive promotion and formal presentation of the smart specialty shop or the finer department store. Protective types of body lotions and creams will never be a market revenue producer but it can be for the cosmetic department, where the finer soaps will be sold in competition with the detergents.

More Advertising Needed

The cosmetic department in the days ahead, state the buyers of half a dozen cities and suburban shopping areas, will have to change its method of doing business. It must advertise more. Products should be adapted to St. Valentine's Day, and Easter giving, for unless perfumes and matching colognes are featured women will spend their dollars for other items equally as important and perhaps given more advertising plugging.

There is definitely a place for a make-up school in every store and trained supervisors to help customers in their make-up selections. The demonstrators who come to

Cosmetic counters across the nation combat annual post-Christmas slump with half price sales.

Buyers fear low overhead competition of self-service markets, emphasize need for personal service in toiletries department.

Make-up schools, bigger advertising budgets, and adaptation of packaging to holidays recommended as prime ways to increase volume.

give aid to the indifferent salespeople (it seems to be a Midwestern disease), might well work with them as general supervisors and have classes in a section of the store where there is privacy.

To beat the half-price "curse", as buyers call it, and the supermarket competition that is fast traveling North from the deep South, any cosmetic department must SERVE the customer.

Traveling Around

Chicago retail cosmetic departments went literally over-board in presenting fragrances. It led all other Mid-west cities in the dozens of pages devoted exclusively to perfume. Often one maker was featured, again several. But last month's sale proved that the perfume testers sold during the summer, turned the perfumes into profits.

Minneapolis featured brand names and stressed the \$5 item in much of its presentations. The Golden Rule, St. Paul, went all out for the holiday bedecked items in popular priced brackets and suggested the twosome boxes. Stix Baer & Fuller, St. Louis, followed the popular trend; items under \$5 were the advertised ones, with fragrances given pages and equally as good returns. Hudson's, Detroit, used ample space for featuring name brands in perfumes with prices from \$7 to \$60.

Indianapolis stores followed with the idea of the gay baubles under \$5 and found ready acceptance. Milwaukee stores suggested col-

ognes as the ideal gift and Schusters made a special of Sinner and Saint. The Twin cities, as well as others just mentioned and Younker's, Des Moines, gave more attention, with full pages, to men's toiletries than is normal for any period. Sales were substantial in response to such advertising.

Another presentation was that of cosmetic items for the teenager and the very little lady of the house. Ayres of Indianapolis gave attention to this type of presentation, smartly illustrated and well displayed in the children's accessory shop. Carson Pirie Scott & Co., also did a good job on suggesting this for the young person who has everything.

Featuring this line in the section where apparel and allied items are

sold has proved to be a much better selling "spot" than when these were incorporated as part of the regular cosmetic department where the display was small and usually over-powered by the more expensive items. Again the prices were held within the \$5 range for toilet water, bubble bath, hand lotion, shampoo and dusting talc. To carry the idea home to those who had to wait for their luncheon, Carson's used high colored balloons, presented to each child during the Saturday noon-hour, and on these were printed the "Little Lady" toiletries by Helene Pessl. The youngsters always wanted to know what it said on the balloon or else spelled it out. The idea was good and sales proved the value of the idea.

Arden, Coty, Rubinstein, Revlon, Matchabelli, Faberge, Evyan Top Buffalo Hit Parade

MAGGIE FLEMMING

Buffalo—With the Christmas season past, and while the ravages of last month's shopping spree are being cleaned up, peace and quiet are—unfortunately—ready to descend on toiletries counters once more, and there is plenty of time for a post-mortem.

The packaging that seemed to stir up the largest flurry of buying was that of Arden's entire line, Coty's Snow-Berry package and their \$6.50 Golden Slippers ensemble, the packages of Rubinstein and Revlon, and the six personalities of the Aquamarine line—designated as The Fas-cinator, Basque Beret, Snow Queen, Gilded Lady and the Fairy Princess. Matchabelli's six-fragrance cologne collection, in a net-bowed miniature hat box of acetate, wound up the "hit parade."

Name-brand perfumes and cosmetics moved best. At J. N. Adam's these included Faberge and Evyan in the domestic lines, with Caron, Guerlain, Chanel and Lanvin the leaders of the imports. Tops in the novelty gift section were the fine leather wallets of Coty and Ayers, each containing compact, lipstick and perfume vial. Dresser sets sold well, a preference being shown for those priced from \$20.00 and up.

A "Special Shave Shop" counter, featuring everything from travel kits to men's toiletries, did a whale of a business. And it is interesting to note that the Stag Shop at J. N.'s, a sequestered gift shop for men only, reported toiletries second from the top in total volume of their sales, first place having been taken by lingerie.

H. J. Conner, J. N. Adam's toiletries buyer, made some interesting observations: Powders, lipsticks, and other cosmetics sell in greater volume for personal—not gift—use at Christmas time than during any other period of the year. Solid colognes have not replaced liquids, but have made a definite place for themselves, serving as a supplement to liquid colognes in handbag, office kit, and traveling bag. Elizabeth Arden's line was newly installed here last month, and is moving with the enthusiastic success that marks its presence everywhere.

A new fragrance, just acquired by J. N.'s, is Sardeau's "Suspicion." It was launched with the personal appearance of dancer Kay Thompson, currently appearing at Harry Altman's Town Casino. The stunningly zebra-striped packages and hand-blown, hand-painted zebra bottles of "Suspicion" are exciting sales stimuli for this musky fragrance. The boldly black-and-lime booklet covering "Twenty ways to use Perfume," given with each purchase of "Suspicion," was a smart bit of merchandising that may assure many repeat sales for "Suspicion."

Emphasis on Cosmetic Advertising Pays Off

JEAN ROBERTS

Dallas—Cosmetic items were among the biggest advertising features in almost every Dallas department store's Christmas promotion. It looks as if this time more newspaper lineage was used than in any previous

year. And this concentration paid off. Cosmetic items sold like hotcakes.

Clerks report that packaging in perfume, cologne and bath accessories accounted for part of the demand. They believe that customers were interested in gift items from their departments because unique packages made them more than just perfume or colognes.

Among the most popular gift packages was the Magic Cane, striped with blue ribbon and dotted with four tiny bottles of My Love, Blue Grass, On Dit and White Orchid. Versailles Garden, with a crystal flacon set in a French garden scene and Champagne Party with flacons of Intoxication, Divine and Le Dandy received much attention.

Neiman Marcus had its own exclusive perfume wrapped in a bit of mink, no less.

The chain drugs also used cosmetic items in their advertising, although not so predominantly as the department and specialty stores. One store reports to have done more with men's items than usual, with good results.

Not as much interest was shown in expensive perfumes as in previous years. Although business boomed, customers were obviously more concerned about cost. Medium priced packages enjoyed the most sales. One thing clerks report is that the emphasis shifted away from \$1 packages during the holiday season to the two to three dollar range. In former years a vast majority of customers inquired first for items for about one dollar. And even though one dollar has not bought very much for two past seasons it was only this one where the customers seemed reconciled to the fact and started with the more expensive line.

Sales on regular merchandise kept a good pace with home permanents selling especially well. Probably the dress up season brought this on. Nail polishes also moved fast. Indelible lipsticks continued to be in demand.

Pittsburgh's December Sales Topped 1950's

LENORE BRUNDIGE

Pittsburgh—Although official figures are not yet available, it is generally conceded that Christmas dollar volume topped December 1950's.

Christmas buying started here earlier than in the past and kept up at a fast clip, with the exception of a few days when bad weather intervened.

However, even if cosmetic sales were up over last year's, some buyers point out, this does not necessarily give them too much to shout about. A year ago three major stores had delivery services interrupted by a strike which ended three days before Christmas. Also, a newspaper strike of all papers in the city which lasted until November, cut down on holiday advertising.

Since buyers are generally pessimistic when speaking of meeting previous figures—even when they are good—it may be assumed that this year is definitely better than a year ago.

Among the complimentary remarks heard among customers were those concerning cleverly wrapped items. Marie Earle's "Magic Wand"

with miniature bath oil bottles was a big favorite in the "little gift item" category.

Popular in price were those products retailing around two dollars, with five and ten dollar units representing the middle bracket.

In the manicuring items, the introduction of "Juliette Margien" products for problem nails has met with good response.

According to the buyer, "the fact that it is higher in price (\$1.75) made no difference at all. There are a lot of problem nails around here."

Beauty shop business is reported buzzing at good speed, with a flurry of excitement over the "poodle" hair cut, which, in spite of the fact it was introduced many months ago, has just caught on here.

it failed to move as quickly as Dorothy Gray usually does. Most cosmetics should be available to the customer item by item, another buyer thinks, even though they are promoted as a group.

Gadgets Attract

Gadgets continue to fascinate the consumer, it seems, especially when a well-known house offers them. Max Factor's Hand Lotion Purse Dispenser has kept the cash register jumping and the World of Beauty Lotion has also moved nicely at the larger department stores. Of course this is the top season for hand lotions. They are selling very well but the unusual containers definitely draw attention and sales.

New products usually create profitable interest, naturally, and Harriet Hubbard Ayer's Cleanse-Ayer proves this again. The \$1.50 bottle of liquid cleanser sells very well as does the Formulayer. The customers are still intrigued by special ingredients such as Ayrogen, to the extent that they buy the \$3.50 jar of Formulayer in sufficient quantities to make the buyer quite happy.

Another well-known line with a specially-advertised ingredient is Gourielli's Estrolar Throat Oil. Their representative is in town and a gift of the throat oil was advertised free, accompanied by a special booklet on contour correction for home use. The buyer says it is a complete success and she explains that the gift definitely attracts, the representative draws and the special ingredient is helping sell the regular-size item in highly profitable quantities.

Reviewing the past Christmas season, buying picked up after the first of December and the brightly wrapped and packaged gift cosmetics sold rapidly. Schiaparelli's candlestick container of perfume and the Snuff perfume pipe (for men) sold very well. Coty's assortment of clever gift ensembles did beautifully, especially at the large department store who was visited by Coty's representative.

Representatives still are a wonderful drawing power, buyers confide. Even in the Christmas rush, they exerted a happy attraction for the customers. Covermark sent a representative to town and she was a big help in making the promotion a decided success the buyer said. Covermark drew the customers' attention and the representative and sales girls sold a gratifying amount of the Lydia O'Leary face powder, finishing powder and cleansing cream as well as Covermark.

Intensive Elizabeth Arden Promotions and Displays Follow Breaking of Exclusive Franchises

DON COWLING

Los Angeles—Hottest item in Los Angeles toiletries circles last month was the breaking open of the former Elizabeth Arden exclusive franchises. Formerly J. W. Robinson, I. Magnin, and Bullock's Wilshire were sole outlets for Arden's merchandise in this area. Now Bullock's four stores, Broadway's five stores, May Co.'s four stores, Haggerty's two and Coulter's one are carrying full stocks of Arden. The change was announced in a full page ad in a Los Angeles Sunday newspaper for all leading department stores and leading drug stores. The ad can be presumed to be on the national rate, being run over the Arden name. At the moment most of the department stores are running their Arden sections, and they are sections, with Arden appointed demonstrators, helped out by various Arden rotators in to train. The Arden ad was followed by more ads over the names of the various stores, none in the form of announcements, but as units in the regular parade of treatment line advertising.

No effect was perceptible in the former exclusive outlets, displays, demonstrations: all seemed as before. Now toileters are wondering whether this move will be emulated by other houses whose selling arrangements have been on an exclusive franchise basis.

At J. W. Robinson in downtown Los Angeles dressing table articles crowded perfume displays. Soaps were in good display.

At Bullock's and the May Co. stores the lines, as usual, were featured. These stores are truly loyal to their demonstrated lines. Each has

its allotted space, and each space last month was piled high with the holiday offerings of the various manufacturers represented. At the Broadway Downtown they were well displayed, but aisle tables gave a good play to various articles not included in the demonstrated lines. Gift sets were prominent, and in good spots special sections were set up, one for children's toiletries, and one for men's toiletries. At each display, demonstration, aisle table, or wall, were stands with uniform cards listing the price range of the articles to be found there: \$3.50 to \$30.00, 39 cents to \$1.79, \$1.00 to \$5.50. A shopper entering the section could go straight to the price range in which she planned to operate.

A smart drug store toiletries salesgirl said the other day that one reason for her uptrend in nail care figures was the Peggy Sage boost in price from 60 cents to \$1.00. Not only did her unit sale pick up, but the article sold better at \$1.00 than it had at 60 cents. She was not prepared to say that the increase in her unit volume was caused by the undeniable fact that the selling figure of \$1.00 has always been the basic sales unit in toiletries.

Group Packaging Fails to Sell

LEE MCKENNON

New Orleans—Group packaging just doesn't draw well at present unless it's with a gift accent, one buyer insists. That may account for the slow tempo of Dorothy Gray's Carillion Colors. The product is sound, the advertising excellent but

Men's Toiletries Beat Last Year's Sales

MARY LINN WHITE

Cincinnati—Buyers are surveying the Christmas "damage", and we might as well take advantage of the situation by taking inventory along with them.

Men's toilet goods items, in sets and singly, continued last year's upward trend; apparently they are an increasingly acceptable gift, even for the "he-man." Several departments reported reorders earlier and larger than last year. Name brands go best; packaging is sometimes a factor in purchases.

Packaging apparently was responsible, partly, for the immense popularity of Coty sets, successful in all stores carrying the line. The Coty "bell", a tree ornament with a purser perfume attached, was "hot" because of its attractiveness and its price.

Price was and was not important. Some sellers indicated that almost all their sales were in the \$1 to \$5 bracket, and they featured counters for "browsing", limited to such items. One store even restricted the articles to \$1 tags. Results were good.

Special Promotions

Special promotions paid off. Mabley and Carew sent out a booklet of gift suggestions, and practically every item shown did exceptionally well in the department (Tussy's snowman, Nosegay cologne, Revlon's aquamarine lotion, Wrisley's pigs). A half-price sale on Ybry perfume (Rollman) was a success. Color ads on scents (Shillito) pulled well, especially nearer Dec. 25, when purchasers became predominantly masculine.

Solids held their own, especially the nationally advertised ones. Faberge's "Quartet" sold out (Shillito) and was almost as hot in other departments. Price was probably considered here, but even at \$7.50 a Paris-imported atomizer of black and gold, unbreakable and scent-escape-proof, did well (Rollman).

What kept the merchants really delighted, however, was the large and sustained demand (increased over last year's) for the usual products: treatments, powder base, powder, rouge, lipsticks etc. Hair goods were a little off, customarily pick up, especially tints and home permanents, between Christmas and New Year's Day. An exception was the counter where a demonstrator (not thought particularly effective at the time) tripled the usual demand for Rubinstein's hair tints.

Canadian Beauty Industry Attacks Price-Fixing Report

The MacQuarrie report, which recommends that retail-price fixing be made illegal, was criticized in a brief submitted to the Canadian Parliament's special committee on retail price fixing.

The association urged the committee not to ban resale price maintenance practices, asserting that they had helped the industry to prevent cut-throat price practices and resulting numerous bankruptcies. Price maintenance was seen as required to prevent branded articles from being sold below cost by retailers as loss-leaders to attract business.

It was claimed that Canada's beauty supply industry has made no attempt, with the exception of increased excise and sales taxes, to raise prices since 1939. This was explained as being due to the keen competition existing in the beauty supply industry both at the manufacturing and distributive levels of the trade.

Cosmetic Tax Relief Request Awaits Lower Arms Expenses

Plans for requesting Congress to reduce or repeal the 20 per cent excise tax on retail cosmetics have been formulated, but such requests will not be pressed until the cost of the rearment program has passed its peak and the federal budget will permit tax reduction, N.B.B.M.A. vice-president Jacob Reck has announced.

N.B.B.M.A., N.H.C.A. to Hold Beauty Trades Show

The National Beauty Trades Show will be held during the week of August 24 at the Hotel Statler, New York, N. Y., the National Beauty and Barber Mfrs. Assn. has announced. The organization sponsors the event jointly with the National Hairdresser and Cosmetologists' Assn. The organization also intends to help promote the 1952 National Beauty Salon Week.

Simple Price Adjustment for Mfrs. with \$250,000 Sales Top

Manufacturers with net sales of \$250,000 or less for the fiscal year ending not later than July 31, 1951, will be permitted to adjust their ceiling prices to reflect cost increases, including overhead, to July 26, 1951, according to a simplified

method provided by General Overriding Regulation No. 20, which the O.P.S. has issued. The simplified method is optional for manufacturers of cosmetics, beauty and barber equipment and supplies and other items under G.C.P.R. and C.P.R. No. 22. Manufacturers whose net sales are limited to \$250,000 who buy and resell other manufacturers' products will also be eligible, if such sales do not constitute more than 25 per cent of their total business.

The Delaney Hearings

(Continued from page 28d)

chemical is not useful, without even considering safety? To reverse the coin, should not the safety hurdle be cleared first and the product allowed to stand or fall on public acceptance?

I daresay no one would be rash enough to suggest the chemicals-in-cosmetic issue can be judged in terms of black and white. It's the gray areas—the regions of human, subjective judgments—which will cause complications and thwart definitive solutions.

In view of this situation—and in summary—I should like to leave these thoughts for your consideration:

(1) The use of chemicals-in-cosmetics is a very old practice. Nevertheless your ingredient suppliers should be cognizant of their responsibility to provide pharmacological data on the ingredient. The cosmetician in turn must be sure that the final composition is harmless.

(2) Suggestions for legislation to make mandatory "prior approval" of chemical aids in cosmetics may give rise to very complex problems. The various implications of such suggestions should be studied carefully.

(3) Safety must be viewed as a relative matter. To be asked to prove complete safety is like being asked to prove an absolute negative. It is scientifically impossible.

(4) Safety considerations must be related to contemplated methods and levels of usage.

(5) Any increase in the authority of our regulatory bodies primarily should concern safety. Fundamentally, technological usefulness should be determined by consumer reaction.

If further regulation is needed, let us keep in mind the practicalities of the situation and share our full responsibilities. Above all, let us not close the door on progress.

New Products and Developments

One Piece Plastic Goggles

For use against splashes, dust



Goggles May be Worn Over Glasses

and glare in laboratories and factories a lightweight one piece plastic goggle is offered at a low price by the General Scientific Equipment Co. The goggles may be worn over prescription glasses.

Mix-with-Paint Insecticide

With Dianol insecticide insects are virtually painted away in one application for the life of the paint, normally four years, according to the makers Dianol Sales Corp. Dianol, it is stated, is easily mixed with all types of interior and exterior paints including oil, water and dry paints as well as whitewash, casein, cement and stucco paints; and is claimed to bring certain death to all flying, crawling, chewing and sucking insects. It is said to be completely odorless and non toxic to humans and household pets. It does not affect the color or change the characteristics of the paint, it is added, and does not dissolve but is suspended, like the pigment, in the paint.

New Primary Aliphatic Amines

Three new high molecular weight aliphatic amines, and a new amine acetate have been announced by Rohm & Haas Co. Properties and suggested uses may be had from the company. The amines, it is added, should be considered as such or as intermediates in the fields of corrosion inhibitors, bactericides, insecticides, fungi-

cides, wetting agents, detergents, emulsifiers, stabilizers and for the introduction of oil soluble groups into anti oxidants and other oil additives. Samples are available.

Odor Free Cetyl Alcohol

With the reduction in price of odor free cetyl alcohol it now becomes available to manufacturers for use in products hitherto impractical because of cost. Samples and specifications showing its use in cosmetic creams and ointment bases may be had from Aceto Chemical Co.

New Type of Adhesive

A new type of adhesive that will permit boxes to be opened and closed again and be equally effective in contents protection is announced by Swift & Co. For the cosmetic industry where packages are closed and packaged as a unit for over the counter sale the new adhesive permits the package to be opened to check on leakers and then resealed.

Lignum-Vitae

Lignum-vitae the hardest and heaviest wood grown is available for many industrial uses according to the Lignum-Vitae Products Corp. It is a natural self lubricating and non contaminating material resistant to many acids and chemicals as well as water. Full information on its possible uses may be had by writing to the company.

Surface Thermometer

A new surface temperature thermometer for the fast and accurate checking of the outside temperature of pipes, for checking external temperatures for wall leakage of refrigerators, cold chambers and freezers and for checking of wall, ceiling and floor temperatures is offered by the Pacific Transducer Co. It is two inches in diameter and weighs one ounce and is attached to any flat surface by applying a small amount of silicone grease which is supplied with the instrument. Also supplied is a small magnetic clamp to hold it in place when applying it on ferrous surfaces.

Loose Leaf Sheet Reinforcer

Holes are punched and rein-



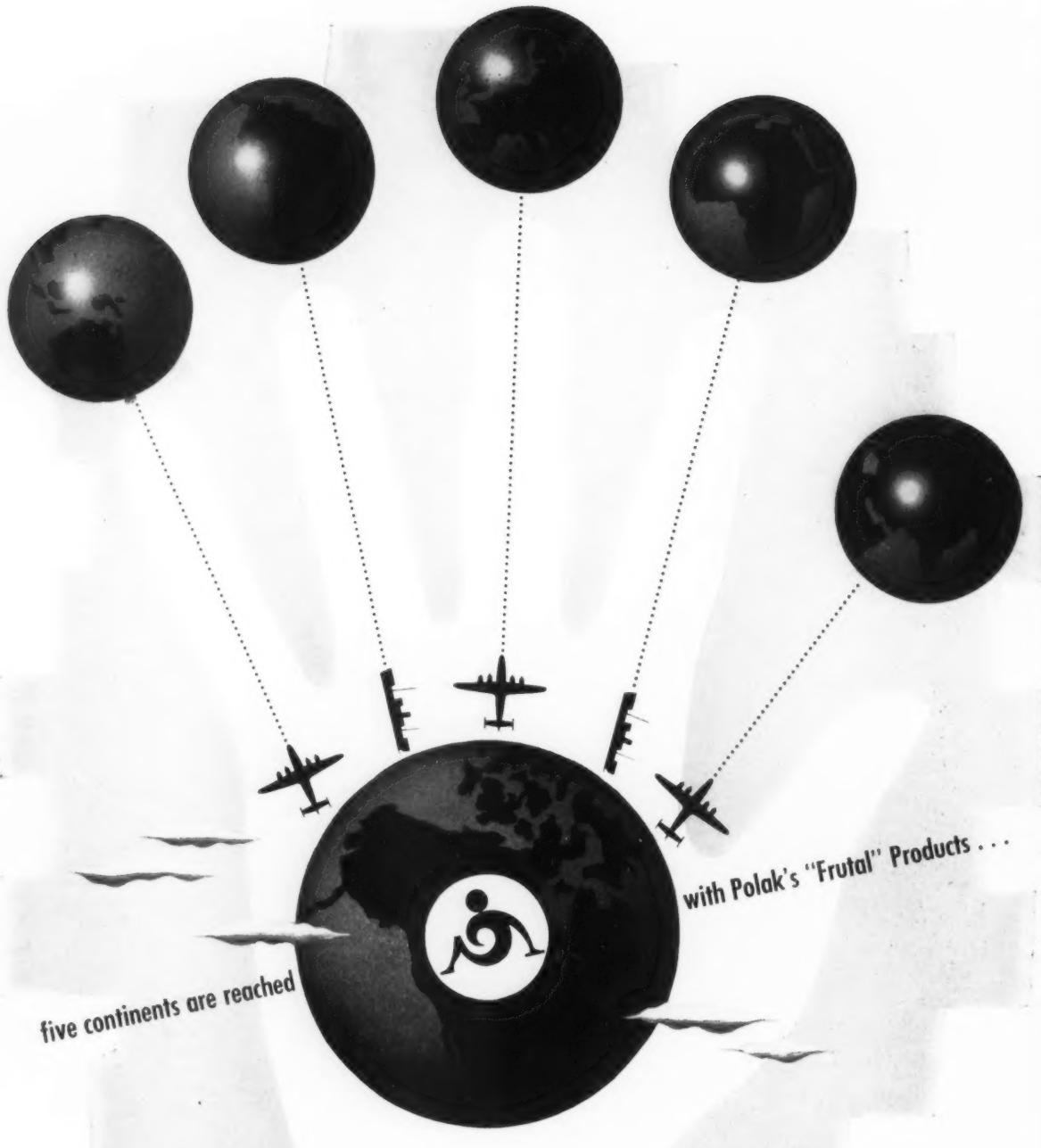
Adhesive Back Tape Reinforces Holes

forced in one operation with the Target punch reinforcer according to the Stationers Supply Corp. The holes are reinforced from rolls of strong adhesive-back tape.

Trade Literature

Atlas sorbitol and related products are covered in a 28-page booklet published by the Atlas Powder Co., Wilmington, Del. It contains numerous charts, tables and a complete index. What is sorbitol is explained in a technically interesting way. Then Atlas sorbitol products are listed and described after which charts showing the properties of sorbitol and Atlas sorbitol products are given. Sorbitol for conditioning is then discussed, and then are taken up such subjects as conditioning cosmetics, conditioning tobacco, conditioning glue compositions; sorbitol in protective coatings, in foods, in pharmaceuticals and sorbitol derivatives. A copy will be sent on request.

World trade data is covered in a 32-page booklet issued by Exporters' Digest for 50 cents. It puts at one's fingertips information of value to world traders and covers international communications, electric current, conversion factors, trade fairs, world wide air services, uniform customs and practice for commercial documentary credits.



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Hints for Improving Production

*Increased skill, greater loyalty, better morale, more endurance
for routinized work and reduced absenteeism among assets of
older workers disclosed by government and university researches*

ONCE more young men are being called into the armed services from out of industry. Once more the future supply of young workers for our plants has a cloud of uncertainty hanging over it. Once again we must take a careful look at the abilities of the older workers and we must weigh all known factors in careful balance.

Analysis after analysis of both the physiology and psychology of age have shown that the rapidity of the decline in quality and quantity of performance after 40 years is far less than the average employer believes it to be.

One of the arguments that has been placed against the older worker relates to higher costs for compensation insurance and pension plans. While age is not usually a factor in compensation rates it can be if the staff is overly loaded with older workers.

Another popular argument against old timers is that the man nearing 40 slows down in muscular strength and endurance; his reflexes are slower, and his hearing and eyesight begin to fail. These changes do occur but when we consider such changes we must constantly bear in mind that changes with age do not necessarily mean decline.

Where certain capacities diminish others are often enhanced. For example, as the speed of reaction is lowered with age, there occurs a compensatory increase in endurance. In athletic performance there is a positive correlation between maturity and success in competition requiring endurance. Records for sprints are held by young men but older men invariably hold those for marathon running.

Greater differences can be observed in an exercise endurance test in persons in the same age group, than are observed between

younger and middle-aged groups. Tests have also demonstrated that loss of physical strength is normally compensated for by increased skill and good judgement resulting from long training and experience.

Age, as measured in years and months, is not the same as physiological age. No worker is any older than his vision, his motor skill, or his productivity. The important factors to consider in older men and women relate to their "functional age" or ability to perform efficiently the tasks involved in each job.

All of the senses show a decrease in acuteness with age. The change visually is in one's ability to focus on near objects. This can today be completely corrected by means of eyeglasses.

Motor activity, although controlled by nervous impulses is to a great degree dependent on anatomical structures. It reflects the alterations which occur in the body. Stanford University studies of adult motor activity, however, did not reveal any sudden alterations in relation to any age group. On the contrary, numerous studies have shown that the older employees tend to have fewer accidents, so other factors appear to compensate for this change in age.

The decline in mental functions is less than is generally believed. In an extensive study at Columbia University it was shown that although the ability to learn showed a definite rise in the early years, the decline later was slight. Difficulty can be expected in "unlearning" previously learned and established patterns.

In general, meanings, and recognition of generalised truths, critical judgement, and standards of excellence tend to remain undiminished to the end of the life span.

In a report to the United States Secretary of Labor by the Commit-

tee on Employment Problems of Older Workers results showed no definite relation between age and output. In another study the average age of workers whose output was considered excellent was 47½ years, while the average age of those in the inferior grade was 41. There is little evidence that older workers produce less.

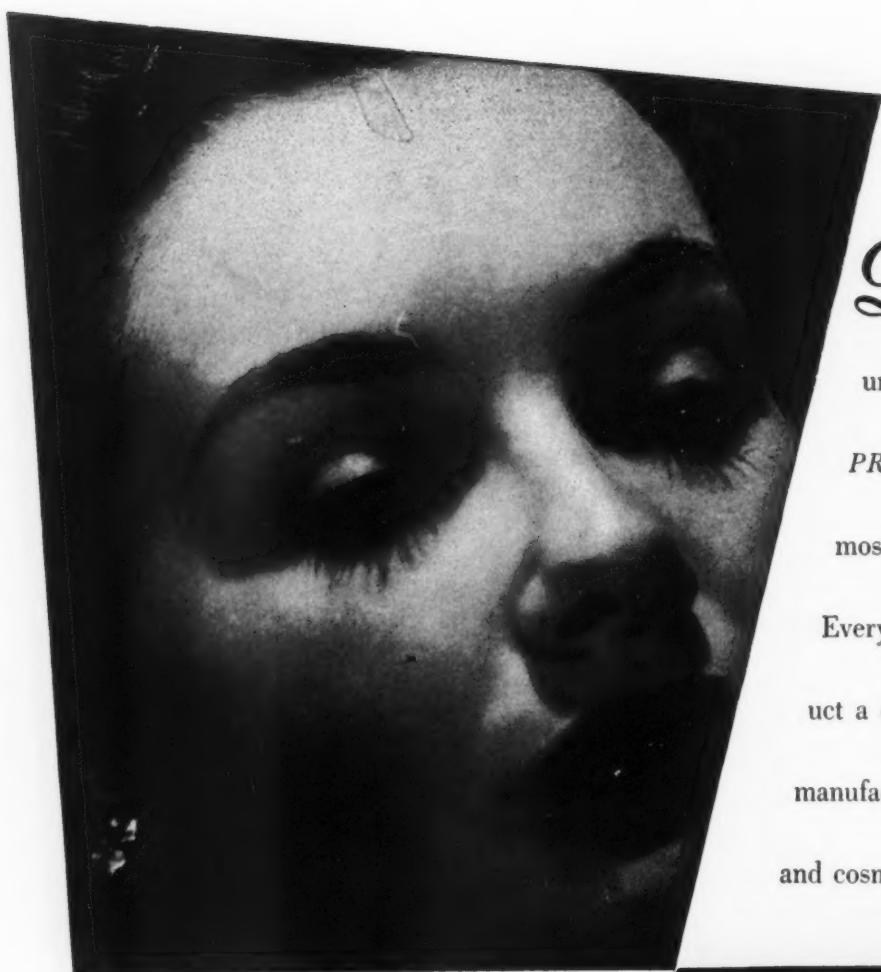
The relation of age to frequency of labor turnover is of importance. It has been found that the older worker remains on a job longer than does a younger one. Studies have shown that the greatest occupational mobility took place under the average age of 35. Thereafter, there was little shifting to new occupations.

Perhaps the most common reason offered for discrimination against the older worker is that he is more accident prone than the younger worker. Study after study has shown the contrary, that the accident rate is highest for the younger workers. The fact that the older men are more careful is important.

On the average it is undoubtedly true that there is more illness among older workers than younger ones. More and better preventive cautions and more education as to physical care is reducing these figures daily.

The same experience has shown the older worker has definite assets in skill, patience, sobriety, loyalty, better morale, endurance for routinised work, greater safety, reduced absenteeism and better discipline. On the liability side there are found certain disadvantages, some of which are at variance with the general assets because of the differing experiences of employers. These include inability to do heavy work, impatience with younger or less skilled workers, and less ability to learn quickly.

The current situation calls for



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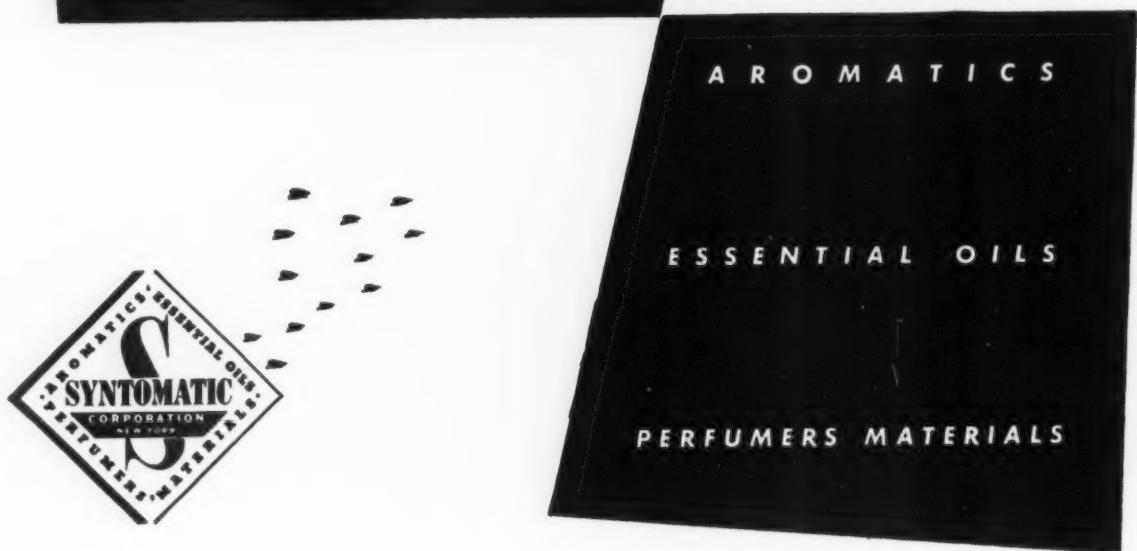
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understanding of the older worker and fitting him into the plant. It is certain that the plant whose management has secured an understanding of handling more and more older men on the staff and which has been adapted to production by these older men, will have the jump in smoother continued operation when and if such a time does come in the near future.

It is going to pay to give a lot of attention to the older men TODAY so that we will have them TOMORROW when we may suddenly need them very badly.—*Ernest W. Fair.*

Air Scale Weight Transmitter

A completely pneumatic scale for either batch weighing or continuous process control known as the F-C air scale weight transmitter is announced by the Fluid Controls Co. Operating on the force balance principle it indicates or controls the weight or force through standard instruments in the manner commonly applied to temperature, flow, pressure and level problems.

Mixer Without Propeller

A mixer with a hollow cylinder with narrow slots is offered by the Premier Mill Corp. When the cylinder is rotated at high speed centrifugal force causes the liquid to emerge through the slots under pressure. The cylinder is attached to a shaft connected directly to an electric motor. The disperser as it is known is designed to be effective with liquid-liquid, liquid-solid and liquid-gas system.

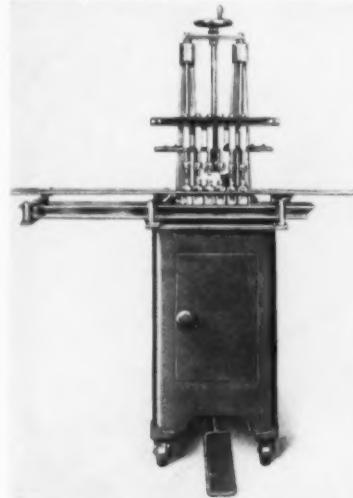
Simplified Battery Handling

The use of a four wheeled battery-cart according to Gould-National Batteries Inc. eliminates lifting and avoids the necessity of an overhead crane in handling industrial truck batteries. Batteries are rolled on or off the cart rather than lifted. To assemble such a battery-cart, secure a caster to each corner of the conveyor-section so that the section rolls freely on the floor. Weld a structural angle at each corner of the section, perpendicular to it and on the opposite side from the casters. The angles form uprights for a framework which prevents the battery from being pushed off the cart. To complete the framework, bolt 2x8-inch planks across both sides and one end of it. The 2x8 at the other end should be removable to allow the battery to be rolled on and off the

conveyor-section. When removing a battery, the workman simply rolls the carrier to the "walkie" truck and slides the battery onto the conveyor-section. The carrier is then pushed to a charging location.

Portable Liquid Fillers

A series of four and six spout portable semi-automatic fillers to meet the needs of small manufacturers with moderate filling requirements or as auxiliary fillers for companies not wishing to disturb a mass production line is offered by the MRM Co. The fillers



Filler for Smaller Manufacturers

are readily changed over from fractional ounce up to quart containers it is pointed out.

Plastic Drum Liners and Bags

A new copolymer plastic film material having strength and flexibility has been developed by the Protective Lining Corp. for various types of drum liners and bags. The drum liners are electronically welded and tested the manufacturer states and are made in all sizes and shapes for practically every kind of drum, carton or case.

Polyethylene and Vinyl Pump

A new series of non-corrosive flex-i-liner pumps in which the fluid transferred comes in contact only with a polyethylene body block and vinyl flex-i-liner is announced by the Vanton Pump Co. The pump is said to be unique in its ability to withstand the extreme corrosive action of strong acids and caustics and other chemicals to which the plastics specified are resistant.

Processing Literature

Electrostatic precipitation as a means for cleaning air, painting, deposition and separation is the subject of a bulletin issued by the General Electric Co. known as GEA-5212.

Motorized hand trucks and electric stackers are described and illustrated in a 16 page bulletin issued by the Yale & Towne Mfg. Co.

Where air must be completely dust free or sterile a unique air filter, first used by the Atomic Energy Commission to keep radioactive particles out of the atmosphere, is now available from the Cambridge Corp. The filtering medium is a feltlike paper containing submicroscopic asbestos fibers which direct the air through such tortuous paths that essentially all of the particles become entangled in the fibers.

A non absorbent and non porous new vinyl plastic link mat in five available colors for numerous uses is described in a two page leaflet by the makers, the D. W. Moor Co.

Self operated temperature and pressure controllers in which the steam, air, water or other media under control furnishes the motive force, are described in a new bulletin issued by the Tagliabue Instruments Div., Weston Electrical Instrument Corp.

Dollies, lift jack systems, two and four wheel hand trucks, trailer trucks and accessories are described in a 12 page condensed catalog issued by the Howe Scale Co.

Chemical processing equipment and blowers made by the Read Standard Corp. are described and illustrated in a new 12 page catalog issued by the company.

Packaged electric heaters which are designed to furnish convenient heat at low initial cost for hundreds of commercial and industrial uses are adequately described in a folder issued by the Edwin L. Wiegand Co. Among many uses pointed out is the removal of moisture from bottles before filling.

Fast, low cost drum cleaning by the Pangborn rotoblast technique which throws metallic abrasives against the drum surfaces by centrifugal force, is adequately explained and the machines described in a six page brochure issued by the Pangborn Corp.

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Flavors



How Brandy is Aged

One of the factors on which the flavor of brandy is dependent is the method by which it is aged. . . . Natural aging and rapid aging. . . . Treatments during aging.

MORRIS B. JACOBS, Ph.D.*

A NUMBER of years ago, the editor of this section wrote three articles on the rapid aging of whiskey. Some of the factors involved in the aging of brandy are similar to those involved in the aging of whiskey and others are different.

Natural Aging

After distillation brandy is usually aged in oak casks. Great care must be taken by the distiller to insure a good product. Generally four or five years are required to develop the bouquet, flavor, and mellowness desired. Sometimes, however, brandies are aged for twenty years.

Before filling, it is customary to sterilize the casks either by steaming them or by scalding them with several changes of boiling water. Sometimes the casks are filled with white wine and then drained. This is done to dissolve any objectionable coloring matters or substances which might possibly affect the flavor of the brandy.

Comprehensive experiments on the aging of brandy have been performed by Valaer and by Bellet. Valaer found that during the early aging of 100 proof brandy there was an increase in the alcohol content and in total and volatile acids, a slight increase in esters and higher alcohols content, and a defi-

nite increase in total solids. Such increases in proof, acids, esters, higher alcohols, solids, and other components are slower in plain barrels and the increases are more uniformly distributed over the whole period of aging than in new charred cooperage ordinarily used for whiskey and rum, in which instances the greatest changes occur during the first six months.

The changes taking place on storing brandy are dependent on the type of barrels used. Thus new charred barrels cause the greatest changes. New plain barrels, re-used barrels, and paraffined barrels cause lesser changes in the order mentioned. Thus, even in paraffined barrels a gradual change takes place in the constants of the brandy as noted by a slow increase in the amount of congeners, a slight increase in color, and a small loss of volume. There is more furfural in brandy aged in charred barrels than in that aged in re-used barrels.

Bellet in a study of the aging of cognac over a period extending from 1910 to 1934 found that the total esters remain relatively constant but that the more volatile esters rose very slowly at the expense of the less volatile esters, that is, the esters of the higher alcohols. There was thus a consequent liberation of higher alcohols.

The changes noted result from substances dissolved or derived from the wood and from chemical

changes which in turn result mainly from oxidation, alcoholsysis, and esterification. The formation of more volatile esters at the expense of less volatile esters with the consequent liberation of higher alcohols is an example of alcoholsysis. Some of the higher alcohols are in turn converted into aldehydes.

Among the substances derived from the wood are the acids, the coloring substances, tannins, and substances which give the product a woody taste. As noted there is an increase in furfural, this increase being much more marked when aging is done in barrels that have been charred. The increase in solids is due in great measure to the substances dissolved from the wood as is the increase in acids. Reif found small amounts of vanillin (0.0 to 0.2 mg. per liter of spirits), the amounts found being roughly proportional to the brown color produced. Valaer found that a small amount of methyl alcohol is apparently inherent in all authentic brandy but it is generally less in grape than in other types of fruit brandy.

Rapid Aging

The rapid or quick aging of brandy has not, in all probability, received as much attention as has the rapid aging of whiskey. Often the results have been undesirable. Among the treatments which have been used are filtration with and through activated carbon, addition

* Professor of Chemical Engineering, Polytechnic Institute of Brooklyn.

of oak chips, oxidation with oxidizing agents such as hydrogen peroxide, and heating.

Since a significant factor in adequate aging of brandy is interesterification, oxidation is very likely of secondary importance and that is why quick aging methods for brandy which depend solely on rapid oxidation of new brandies fail to give satisfactory results.

The use of plain untoasted white oak chips is often beneficial if the brandy is to be stored for less than four years provided the addition and process is carefully controlled. About 1 gram of oak chips per liter of brandy is usually sufficient.

Formation of Volatile Esters

The formation of volatile esters is hastened by heating. This may be carried out by the artificial heating of warehouses, storage in hot rooms for a number of days, or by preheating the brandy in storage barrels by the use of immersion heaters of either the electric or steam coil type. In areas where high summer temperatures prevail, as in California, it is generally unnecessary to heat the warehouses for the prevailing temperature is adequate. Uniform storage temperatures of the order of 70 to 80 deg. F. have been found most favorable for aging.

The color and wood flavor of brandy are markedly increased by the use of a combination of oak chips and heating.

It should be noted that the use of such treatments is not common in California and is in all probability not practiced to any very great extent elsewhere.

Treatments During Aging

At times brandy is given certain treatments but these should be distinguished from rapid aging or quick aging. It is on occasion necessary to treat brandy in order to remove off odors and off tastes. It has been shown by Caffre that about 1 pound of activated carbon when added to 25 gallons of brandy will eliminate bad tastes. However, brandy treated in this manner lost most of its characteristics for the amounts of esters, acids, aldehydes, and furfural were also materially reduced and since all of these contribute to the organoleptic properties these were in turn diminished. There was virtually no change in the higher alcohol content.

Gelatin has been used for the removal of excessive woody tastes.

About 28 grams of gelatin to 280 liters, that is 1 ounce of gelatin per 74 gallons may be helpful.

There are reports in the literature of the removal of iron and other metallic impurities. It must be noted that the treatment of brandy either by the removal or the addition of substances may be considered rectification and it is best to obtain information as to whether or not a given treatment is permissible.

Treatment and Cost

One other factor to consider is the cost of the treatment involved. It may not be economical, in comparison with the cost of redistillation, to apply certain treatments to brandy for such treatments may be only slightly less expensive in chemical and labor costs.

Ester-Acid Ratio

One of the ratios of constants of brandy which changes significantly on aging is the esters-acid ratio. In new brandy the esters are customarily present in greater amounts than the total acids and though both values increase on aging, as noted above, the increase in ester content is relatively smaller than the increase in acids so that after a year of storage these values are not as far apart as they were initially. Usually the ester content still is greater than the acid content.

Acids

The relationship of the acids also changes on aging. While all forms of acid content that is both fixed and volatile acids increase on aging, the relative proportion of volatile acids in the total acids present is less after aging than before aging.

In computing the changes in any of the components of a brandy, it must be borne in mind that statements as to the increase of a given component in absolute value must be made with caution. Such apparent increases may be the reflection of the increase in total congeners attributable to the relatively greater percentage loss of alcohol and water during the storage period.

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E. C. Crocker Sees Chemistry, Psychology in Flavor Work

The necessity of both chemistry and psychology in flavor work was emphasized by Ernest C. Crocker of Arthur D. Little, Inc., speaking before eight midwestern sections of the American Chemical Society.

"Food people must become psychologists in part to deal with flavor sensations and their interpretations," he pointed out. Mr. Crocker spoke before sections of the A.C.S. in Urbana and Quincy, Ill.; Columbia and Joplin, Mo.; Wichita and Manhattan, Kan.; and Tulsa and Bartlesville, Okla.

F. D. A. Commissioner Cites Imitation Food Harm

At a recent meeting of the American Bar Assn., Division of Food, Drugs, and Cosmetics, C. W. Crawford, Commissioner of Food and Drugs referred to economic disadvantages to the consumer in the use of imitation foods, with the exception of certain flavor extracts. Mr. Crawford in part, stated:

"I know of no food sold as an imitation where similar economic disadvantage to the consumer does not apply, with the exception of certain flavoring extracts typified by imitation vanilla. That product is usually a solution of vanillin and coumarin, colored with caramel. Without caramel the solution is colorless. The sole function of caramel is to impart a color simulating that of genuine vanilla extract. It adds no perceptible color to the food in which the flavoring is used. If vanilla extract were standardized and imitations of standard articles were banned, vanillin and coumarin extract, minus caramel, would imitate nothing, and could be labeled and sold under its true name."

The aforesaid references were evidently predicated upon the recent United States Supreme Court determination in the Jam Case.

It is considered possible that within the near future the Food and Drug Administration may launch a campaign to amend the Federal Food, Drug and Cosmetic Act as amended, by deleting Section 403. "A food shall be deemed to be misbranded—(c) If it is an imitation of another food, unless its label bears, in type of uniform size and prominence, the word 'imitation' and, immediately thereafter, the name of the food imitated."



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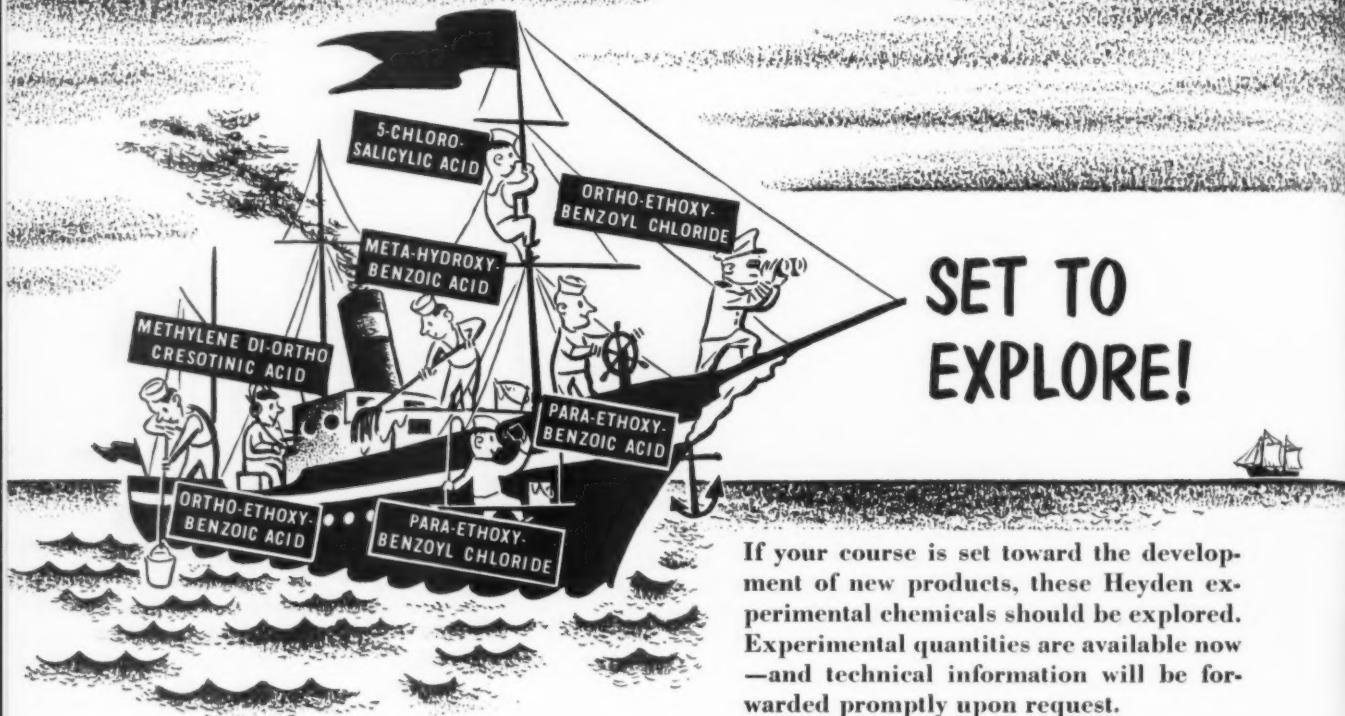
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Availability: Experimental quantities

Properties: Appearance White needles
Melting Point 173°—174°C.
Solubility . . . Very slightly soluble in cold water; soluble in hot water.

META-HYDROXYBENZOIC ACID

Useful as an intermediate in the preparation of fine chemicals. Undergoes reactions typical of phenols and aromatic acids.

Availability: Experimental quantities

Properties: Appearance White powder
Melting Point 202°C.
Solubility . . . Very slightly soluble in cold water; soluble in hot water and alcohol.

METHYLENE DI-ORTHOCRESOTINIC ACID

A dibasic acid useful in the production of resins for surface coatings and printing inks. Intermediate for dyes and fine chemicals.

Availability: Experimental quantities

Properties: Appearance White crystals
Melting Point 276°—277°C.
Solubility . . . Slightly soluble in alcohol and acetic acid

ORTHO-ETHOXYBENZOIC ACID

A liquid aromatic acid. Suggested as an intermediate for dyes and fine chemicals.

Availability: Experimental quantities

Properties: Appearance Colorless oil
Melting Point 19°—22°C.
Solubility . . . Slightly soluble in cold water; Soluble in hot water.

ORTHO-ETHOXYBENZOYL CHLORIDE

Highly reactive intermediate for preparation of esters, amides, etc.

Availability: Experimental quantities

Properties: Appearance Colorless liquid
Boiling Point 12°F.C. (5-6 mm.)

PARA-ETHOXYBENZOIC ACID

Intermediate for dyes, fluorescent whitening agents, pharmaceuticals, and fine chemicals.

Availability: Experimental quantities

Properties: Appearance White needles
Melting Point 198.5°C.
Solubility . . . Very slightly soluble in hot water.

PARA-ETHOXYBENZOYL CHLORIDE

Highly reactive intermediate for the preparation of dyes, fluorescent whitening agents, pharmaceuticals, and fine chemicals.

Availability: Experimental quantities

Properties: Appearance Colorless liquid
Boiling Point 112°—113°C. (6 mm.)



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Vanilla and Related Aromatics

Natural vanilla . . . Irreplaceable vanillin, its uses and how

*it is made . . . Cumarin, its sources and uses . . . Methyl
cumarin, heliotropin, guaiacol and how they are employed*

DR. N. C. LARSEN*



Hand pollination of vanilla

THE practical application of vanilla to commercial aromatic compounds necessarily falls into two divisions: the natural and the synthetic. This situation exists because of the fact that the aromatic principles which give vanilla its characteristic odor and taste are to be found in nature as well as in the man-made synthetic molecules. Inasmuch as vanilla has widespread application in food materials as well as those wherein odor is the only consideration, we shall consider, very briefly, some of the background concerning natural vanilla.

The National Formulary of the United States defines vanilla, in part, as the "cured, full grown, unripe fruit of *vanilla planifolia* Andrews, or of *vanilla Tahitensis* Moore." This, of course, does not limit the varieties of vanilla merely to the two mentioned in the National Formulary; there are a great many types of varying quality, and differing somewhat in the constituents which combine to contribute the odor. The question of flavor character is dependent largely upon those characteristics which are detectable by the sense of smell. As you know, this is not an inflex-

ible rule since it would not apply to materials such as salt, acid, bitterness or burning or that type of sweetness which is typical of sugar. But it does apply very well to most aromatics, particularly vanilla and one or two others. Consequently, variation in the constituents of vanilla beans of different types and different geographical locations will bring about the same proportionate difference in flavor and odor value, as would different combinations of the same materials either isolated in the free state, or prepared synthetically and brought together in a simple mechanical mixture. This is the underlying principle on which is based the theory and practice of producing compounds which are referred to as "imitation" since they attempt to create for the senses of taste and smell a close simulation of familiar materials found in nature.

Synthesis, on the other hand, can be accomplished with a number of purely natural materials when such materials represent a single molecule which nature has produced and which is duplicated rather than imitated by science. In such case, man has examined the natural material, analyzed it, determined its structure and ultimately found some means other than that employed by nature to produce—not a simulation or imitation—but the identical material prepared in some different way. No case in point could more closely bring out this principle than that of vanillin. Science has developed a method of producing huge quantities of this aromatic completely independent of the processes of nature which take place in the vanilla bean.

Source of Flavor and Odor

Since we cannot take the time to consider each type of vanilla plant individually, let us take a few broad generalizations which may

be applied to most vanilla beans and thereby lead us back to the field of synthetic organic aromatics. From a standpoint of flavor and odor the most important ingredient in the vanilla fruit is vanillin. The percentage of vanillin varies somewhere from about 1½% to about 3%. From the point of view of aroma, a group of pungent resins comprise another 4% and the remaining portions contribute to a taste reaction without being in themselves aromatic. These would include natural fats which have an organoleptic effect in that they round out the body of the flavor and give a rich creamy effect to the other components; and tannin which causes a certain astringency and brings out a rather "woody" quality; and finally natural sugars—making up about 10% of the bean—which increases its sweetness without affecting the odor.

Vanillin was first isolated and identified in 1858 and it was synthesized in 1876 by Haarman and Tieman. It is a white, fluffy, crystalline material which forms in long slender needles that glitter in bright light. Vanillin is its common trade name and it is technically methylprocatechuic aldehyde, or more correctly 3-methoxy 4-hydroxybenzaldehyde. The vanillin available commercially today (and it isn't very available at the moment) is prepared synthetically by several practical methods. When Haarman and Tieman first synthesized the molecule in 1876 it was through the hydrolysis of coniferin. In the native vanilla bean the coniferin—which is also found plentifully in pine bark and asparagus—decomposes to coniferyl alcohol and the intense heat of the curing process oxidizes the coniferyl alcohol to glucovanillin. Two enzymes present in the fruit bring about the hydrolysis which converts the glucovanillin to vanillin, form-

* Chief research chemist, Polak & Schwarz, Inc. Lecture given at New York University.



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ing glucose as a by-product. Commercial production of vanillin today is often achieved through the reduction of eugenol distilled out of clove oil, or by the reduction of guaiacol by formaldehyde. But the most practical and most commonly employed method today is known as the "sulphite-lye" process. This produces an excellent grade of vanillin in large quantity and at a considerably lower cost by recovering calcium lignin sulphonate from the sulphite waste liquor of the wood-pulp industry. The process is simple and has been adequately described by Monsanto and other large manufacturers, so I need not describe it here. The process for preparing ethyl vanillin, on the other hand, is exceedingly complex which will help you better to understand why it was not practical for small manufacturers to attempt its synthesis during the severe shortage of ethyl vanillin which occurred a few years back.

Ethyl Vanillin

Ethyl vanillin chemically is β -ethoxy 4-hydroxybenzaldehyde, gives a much richer, creamier aromatic affect than does vanillin. In flavor strength it is about three times stronger than vanillin, and its crystalline form consists of microscopic flakes rather than long needles. It is generally whiter than vanillin, but can be identified fairly easily by a smelling test to differentiate it from vanillin.

We may now consider certain other materials which bear very little resemblance to vanilla from a chemical standpoint, but which are strongly related to it in a physical aromatic sense. The first and commonest, and probably most important, is cumarin—sometimes spelled coumarin in the old fashioned way—which is a lactone often referred to as Tonka bean camphor and chemically recognized as cumaric anhydride. This material was isolated by a chemist named Vogel back in 1813, but the date of its first organic synthesis seems to be open to considerable doubt. It may be prepared rather easily by the condensation of salicylic aldehyde with acetic anhydride in the presence of anhydrous sodium acetate. The finished material takes the form of white, small, plate-like crystals with the characteristic odor of new-mown hay. In its natural state it is found generously in Tonka beans which are raised extensively for the perfume trade in a part of Italy and the Isle of Man, in melilot and other types of clover, and in

the plant called Liatris, which is also known as deers' tongue. It has a very persistent odor which is pleasing and refreshing and is used very widely in the flavoring of pipe tobaccos. Probably all of you have, at one time or another, been in a group of smokers—perhaps on a crowded street or in a railway station or in a smoking car—and noticed the peculiarly aromatic fragrance resembling that which drifts up from a field of new cut hay,

sert its principal flavor. The advantages were numerous; it not only provided a new and interesting flavor which the public accepted immediately, but it also served to reduce the manufacturers' flavoring cost since its aromatic value is almost three times that of vanillin, and approximately equal to ethyl vanillin, thus enabling the ice cream maker to reduce the vanillin while actually improving the flavor.



Selecting vanilla beans for bundling prior to packing

and realized that there was some odor present which made some one smoker's tobacco different from the others. You were smelling cumarin, and it is sometimes used in such a high concentration in tobaccos that the odor of one smoker's pipe will be clearly noticeable above all the others in a crowded room.

Uses of Cumarin

Cumarin finds wide use in the preparation of certain toilet soaps and men's toiletries, particularly those which are scented with some form of pine or balsam. It possesses the particular quality of enhancing and intensifying the odor of pine—which is very commonly used in shaving soaps, after-shave sticks and similar men's toilet preparations—and it also adds a more lasting effect to this type of scent. It has considerable value, too, in the flavoring industry where it is used as a fixative due to its odor-persistence and its quality of fixing the odor of other aromatics with which it is combined. Many years ago when a new type of ice cream was introduced—called "French vanilla"—the unusually creamy sweet and egg-like character which made this type of ice cream resemble a rich custard was achieved by the addition of cumarin to the vanillin and ethyl vanillin which gave this des-

A closely related molecule is known as methyl cumarin which, chemically, is either 3-methyl-1,2-Benzopyrone or 4-methyl-1,2-Benzopyrone, the two molecules being isomeric to each other. It has little value in the flavoring industry since its flavor strength is about the same as the less expensive cumarin and it lacks the initial aroma which is characteristic of cumarin. It is, however, widely used in perfumery as it affords a more lasting fixative effect.

Heliotropin

One other aromatic crystal more widely used in industrial perfumes than in flavor compounds is known as heliotropin. Chemically, this is Piperonal and known technically as dioxyethylene-procatachuic aldehyde. It takes the form of lustrous crystals which melt at a low temperature, (in fact, on a hot summer day you are liable to find it in the liquid phase) normally colorless when freshly prepared, on aging and exposure to light it takes on a pinkish color finally turning to a brownish purple; this is particularly true if it has melted and recrystallized several times. Its odor is particularly strong and lasting, being reminiscent of heliotrope and other plants of related gender. In flavoring work it adds enormous

sweetness when combined with other materials; although by itself it tends to give a strong burning sensation in small amounts, it enhances the flavor value of vanillin or cumarin or both together.

Guaiacol

One other material which bears a relation to vanilla flavor and odor is Guaiacol. As we already know, it can be used as a starting point in the synthesis of vanillin, but it may be used alone to achieve a vanilla-like effect. Its odor and flavor value are so intense that it may be used only in the most microscopic quantities, but when sufficiently diluted it has the property of creating the impression of a vanilla odor, and since odor is directly concerned with flavor effect, it is sometimes used in conjunction with the aromatics I have previously mentioned to intensify the effect of vanilla in the compound. This material is an antiseptic widely used in dentistry and classified as a member of the phenol group—specifically methyl catechol. It was originally isolated from guaiac resin—from which it derives its name—in 1826 by Unverdorben, but it is now largely recovered from wood tar, particularly from trees such as beech and similar hard woods. It may be prepared synthetically from o-nitrophenol and in its pure state takes the form of a yellowish-white liquid which sometimes crystallizes and tends to darken with age and exposure to light. It is seldom used in food materials and is not too widely employed in perfumery except in those industrial compounds which are used to camouflage the odor of rubber goods. Some of you may have noticed that toys sold in Pet Shops, such as rubber bones for dogs, have a strong vanilla-like odor; for purposes of economy this is sometimes achieved by the use of guaiacol, although vanillin is pre-

ferred, as it is more lasting and combines better with the rubber molecule.

Recently some work has been done on certain forms of propenyl guaethol to be used as an adjunct to some of the materials previously mentioned in emphasizing vanilla odor and flavor. The results are too new to allow of any critical commentary at this time. In matter of fact, certain experiments which we have been conducting ourselves with prycatechol monoethyl ether have been directed along similar lines and the success or failure of these experiments remain yet to be seen and will, of course, be subject to considerable further experimentation.

To attempt to enumerate all of the many ways in which vanilla and its related aromatics are employed industrially would take more space than is available. You have all, in your day-to-day experience come in contact with such items of common trade as rubber and toilet goods, nylon stockings, infants' toys, printer's ink, plastics and any number of other products which have been made more attractive through the medium of aromatic chemistry. In all of these articles of merchandise vanillin and its closely related aromatics play a tremendously important role.

It is doubtful if anything will completely replace vanillin. This does not mean to imply in any sense that there is not, or will not be, other molecules which may produce an effect as pleasing as vanillin, but it does point out that the public has, through the years, been conditioned to the flavor and aroma of vanilla as it has known it and you will find—if you have not already learned—that public opinion, once established, is exceedingly difficult to change. Despite what new and different materials may be presented, the public will probably

continue to say, "make mine vanilla," even when the taste or odor to which they refer is probably heilotropin, cumarin or some related aromatic.

U.S. Dept. of Commerce Defines Small Business

In an effort to assist government agencies in carrying out small business programs in the mobilization effort, the Department of Commerce has made a survey of 452 manufacturing industries to determine what is a small business. The survey established that the definition of a small business differs in each industry and that for manufacturing as a whole, 54% of the output comes from firms in the standard definition of "small," i.e. having less than 500 workers. Using the results of the survey, the Department of Commerce has issued its list entitled "Size Classification of Manufacturers" which holds that companies in the following industries are "small business" if they have no more employees than the following numbers:

Beauty and barber shop equipment, 150; toilet preparations and cosmetics, 250; soap and glycerin, 500; essential oils, 100; pharmaceutical preparations, 300; and hair work, 100.

Manufacturers falling into the "small business" category as a result of the above classification should recite, in appeals from NPA and OPS regulations, that their establishments have been classified as "small business" by the Department of Commerce and set forth the number of employees engaged.

BIMS of New York Lists 189 Members

BIMS of New York has mailed its roster, listing 189 members.

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Soaps



Soap Perfume Fixatives

Requirements of a fixative for a soap perfume mixture. . . . Practical points for the manufacturer on the choice of suitable fixatives for milled or liquid soap.

PAUL I. SMITH

A PERFUMED soap derives its distinctive and sales promoting scent from the combined effects of several aromatic compounds. A fixative is a very necessary ingredient of the soap perfume mixture because of its ability to retard evaporation of the more volatile constituents and so give the soap an unchanging and persistent aroma. A great deal of research has gone into the production of modern fixatives, many of which are entirely synthetic in their origin, and there are now available a wide range of substances suitable for general use by the soaper making either liquid or milled soap. To assist manufacturers in the choice of suitable fixatives, the following points are worthy of special consideration:—

1. The additive must mix readily with all essential oils and aromatic chemicals and be easily soluble in 95% perfume alcohol and in aqueous alcoholic dilutions.

2. The fixative should preferably not contribute any marked odour to the perfume but rather enhance its fragrance. One serious criticism of so many fixatives is that they lend a chemical smell to the perfume which tends to destroy its delicacy and appeal. There are, of course, many fixatives possessing mild flower odours which are perfectly satisfactory.

3. The fixative must not discolour, hydrolyze or saponify. Stability of this vital ingredient is of importance as the sales appeal of a soap can be ruined by discoloura-



Paul I. Smith

tion due to the use of an unsuitable fixative. This may be quite good for wrapped soaps and useless for unwrapped lines.

4. The fixative should be available in a wide range of odour types, each one suitable for specific fragrances or products.

5. Of appreciable significance is the economy factor and for a fixative to serve its true purpose it should actually cost nothing to use. This means that by use of the correct fixative the soaper should be able to make a very substantial saving in costly perfume base without noticeable deterioration in quality.

6. The fixative must be completely non-dermatitic.

The Texture Of Soap

THE smooth compact texture of good quality toilet soap is achieved during the plodder stage by completely eliminating every fine bubble of air and consolidat-

ing the soap by effecting an even and gradually applied compression. Unless the pressure is applied progressively as the milled soap ribbons pass through the plodder the finished soap will show certain evidence of varying density. In some well designed modern plodders, examination of the worm reveals that there is a progressive decrease in the pitch of the flights towards the pressure plate end. This acts in two ways. First of all it makes possible that an ample supply of soap is forced into the cylinder and subjects this mass of soap to an increasing compression as it approaches the pressure plate.

Need For A Chelating Agent In Soap

EXPERIENCE with organic chelating (complexing) agents as additives to soap has proved most promising. Their presence in the detergents enables the soaper to exercise an exacting chemical control over cations, in solution which makes possible the production of a more effective soap. Chelating agents tend to prevent oxidation, rancidity and discoloration of the soap and are, therefore, of great value in those washing compounds having a suspected shelf life. Moreover, they improve detergency and increase lather and solubilize proteins, saponify fats and oils. These additives also prevent insoluble soap formation and insure clarity even in hard waters. For many detergent applications that require a

low titer but not necessarily a very light colour, the best of the distilled grades are usually quite suitable. The white oleic acid prepared by low temperature solvent crystallization methods is recommended for special applications where a white oil with a bland taste and no odour are essential.

Advantages of Vacuum Plodding

EXPERIENCE with vacuum plodding during the last five or six years has clearly demonstrated the advantages of this interesting extrusion process. In particular, vacuum plodding eliminates some of the air problems in soap which invariably arise from packing, compressing or extruding in open atmosphere. Some soapers who have used most commercial forms of plodders are of the opinion that the vacuum method tends to reduce some of the tendencies towards oxidation and, therefore, deterioration displayed by some soaps. The vacuum process also tends to improve density and texture and to give toilet soaps a harder surface. This in itself helps to improve appearances and also permits warping to be carried out with orthodox types of plodders.

Borax As A Safe Alkali For Soaps

BORAX is a useful ingredient of many types of soaps, improving detergency without any detrimental increase in alkalinity, increasing the stability of lathers and giving them a velvety feel which for skin soaps is most desirable. In so-called borax soaps relatively large quantities of the alkali are present in the soap, but in hair shampoos of the cream type about 0.5% is a usual percentage. Borax is only mildly alkaline and does not dry the skin in the same way or to the same extent as carbonate of soda. Borax can be considered to be a reasonably safe additive for general use, even for baby soaps. It is available in crystalline and anhydrous forms, the former contain 47% by weight of water of crystallization. The solubility of borax is much inferior to sodium carbonate and 1 litre of water at 40 deg. C. dissolves only 87 grams. A 1% solution of borax has a pH of 9. For use in soap powders, anhydrous or dehydrated borax is preferable to the ordinary grade. This granular white solid is produced by carefully dehydrating

the hydrated tetraborate. It may absorb some moisture from the air if exposed for long periods, but it is reasonably stable under normal conditions of storage.

Resin Bonded Impervious Graphite For Anti-Corrosive Pipe Lines

SO called impervious graphite, which is really graphite bonded with phenolic type resin, is now assuming particular importance owing to its unique physical and chemical properties. One outstanding advantage of this material for the soaper is that it can be used for making pipes, fittings, valves, pumps, heat exchangers and other units required for the conveying, processing and storage of all types of corrosive liquids, either hot or cold. The material is both acid resistant and alkali resistant, even strong hot caustics have no deleterious effect on resin bonded graphite. It is light in weight, easy to machine and assemble, immune to thermal shock and as the graphite contains no trace of metal it can never contaminate the soap.

O.P.S. Announces New Glycerine Ceiling

The Office of Price Stabilization has set new ceiling prices for glycerine at the approximate selling prices of late November 1951.

Beauty, Barber Legislative Council to Continue as Agency

The Beauty and Barber All-Industry Legislative Council will continue as contact agency on matters of federal legislation affecting the industry. Jacob Reck, N.B.B.M.A. vice-president has announced. The Council will be composed of representatives of the N.H.C.A., the Associated Master Barbers and Beauticians of America, and the N.B.B.M.A.

Men's Line Advertisement Has Chemical Appeal

Wallachs, New York, N. Y., recently advertised its Racquet Club cologne and after-shave lotion under the heading of "it's alchemy." In a novel approach, the advertisement then proceeded to list the fragrance ingredients of the products.

Soap, Glycerine Convention to Hear Government Officials

The Assn. of American Soap & Glycerine Producers, Inc. has announced that it has secured a number of government officials as guest speakers at its 25th Anniversary Convention of January 22 and 23 at the Waldorf-Astoria, New York, N. Y. Among these are Kenneth H. Klipstein, director of the Chemicals Division of the N.P.A., Gus F. Geissler, head of the Production Marketing Administration in the Dept. of Agriculture, and Edw. F. Phelps, Jr., assistant director for private operations in the O.P.S.

Among the guest speakers from private industry will be Walter Hoadley, chief economist, Armand Cork Co.

A special members' meeting and open forum on fatty acid applications has been scheduled for Monday, January 21.

After-Shave Set is Twelfth in List of Men's Gift Preferences

After-shave sets are twelfth in a list of twenty-five gifts men prefer, according to a survey by Cy Chaikin Inc. The survey was conducted among men ranging in age from 25 to 45 years.

Mfrs. Permitted to Add Excise Tax Increases to Prices

Manufacturers, wholesalers and retailers are permitted by OPS to reflect changes in certain manufacturers' excise taxes which became effective November 1. (GCPA Amendment 23; CPR 22, Amendment 32). Manufacturers are permitted to add on the exact dollars-and-cents amount of any excise tax increases—N.B.B.M.A.

Colgate-Palmolive-Peet Co. to Redeem Raleigh Coupons

The Colgate-Palmolive-Peet Co. has announced that, by arrangement with Brown & Williamson Corp., Raleigh cigarette coupons will be redeemable by them.

Oil Chemists Society to Meet April 28-30 in Houston, Tex.

The American Oil Chemists Society has scheduled its 1952 spring meeting for April 28-30 at the Shamrock Hotel, Houston, Tex. Wm. Argue, of Anderson Clayton & Co., will be general chairman. J. D. Lindsay, of Texas A. & M. College, will be program committee chairman.



THE ROUND TABLE -

Shulton Sales Meeting in New Chicago Plant

Shulton, Inc., held a special meeting for its entire sales staff and management executives at the new distribution plant at Chicago in December with attendance of 51 members from all over the United States, in spite of blizzard weather conditions. Sessions were conducted at the Orrington Hotel, Evanston, and at the new shipping plant at 7225 North Cicero Ave., Chicago.

George L. Schultz, president, in opening the meeting said, "Sales for 1951 have far exceeded any year in the history of Shulton and each of us can be proud of the increasing progress in the development of the firm and the place of confidence that it has earned in the toilet goods industry."

Frank N. Carpenter, general sales manager, presented a program of merchandising and sales plans designed to carry through the summer of 1952. Miss Elizabeth Shoemaker, advertising manager, presented the 1952 advertising campaigns. Miss Lee Russell, publicity director, gave the press coverage for the past year.

After the general sessions, individual meetings were held for separate branch managers and salesmen in the following groups: In the Pacific group were Norton Breiseth, Manager, Richard Card, Johnson Curtis, John Dillon, Gerald Gurley, Charles Williams, Hugh Osborn; in the Southwest group were Paul Stoneman, Manager, John Bassinger, W. H. Coffin, Paul Cole, Al Guard and H. A. Roth; in the Midwest group were William Guindon, Manager, Ralph Carney, Bert Davis, Wilfred Hartley, Marvin Hindorff, John Hutchens, Robert Jung, James Luse, Roy Stogner, Theodore Thomassen, Roy Wagner. In the Atlantic group were Richard Parks, manager, J. D. Boland, James Beatty, Clarence Burt, Frances Czito, Harvey Essex, James Freel, Miss Bertha Murray, Frank Steed, and Herman Williams; in the



Henri Robert, Francois de Laire, Louis Bezard, Joseph F. Rudolph.

Northeastern group were James Murphy, Manager, Stephen Backiel, Edward Burns, Ed Commons, William Hayes, Lewis Scanlon and Joseph Swickert.

Others who attended the sales meeting were the three supervisors of demonstrators, Miss Peggy Boyd of New York, Miss Janice Sturdevant of Dallas, Miss Florence Montgomery of Los Angeles, and from New York General Sales, Mrs. Teresa Tinker, and from the Clifton plant, Edgar Lowell and John Wilson.

Cosmetic Credit Men's Assn. Plans Annual Party

The Drug, Cosmetic and Chemical Credit Men's Assn. will hold its annual party January 18 at the Hotel Martinique, New York, N.Y.

CIBS Annual Christmas Party Well Attended

The fourth annual Christmas party of the Cosmetic Industry Buyers & Suppliers Assn. was held at the Park Lane Hotel, New York on the evening of December 15. It was well attended and proved to be a marked success in every way.

De Laire Appoints Sales Manager

Francois de Laire of Fabriques de Laire, Paris, who recently visited New York, has announced the appointment of Louis Bezard as Sales Manager for the de Laire Division of Dodge & Olcott, Inc., 180 Varick St., New York, N. Y. Mr. Bezard, who was born and educated in France, has had 24 years experience in the perfume industry in this country, the last seven of which he served as Vice President of Parfums Schiaparelli, Inc. As Sales Manager of the de Laire Division, manufacturers of French perfume specialties.

Natcon Industries Expands Plant, Office Facilities

Natcon Industries, Inc., with its subsidiary companies, Hirestra Labs., Inc., Kathleen Mary Quinlan, Inc., and Cynthia Andrews, Inc., has moved its cosmetics plant and general and executive offices into new quarters at Bathpage, Long Island, N. Y.

Sales offices and show rooms for all companies have been transferred to 745 Fifth Ave., New York, N.Y.

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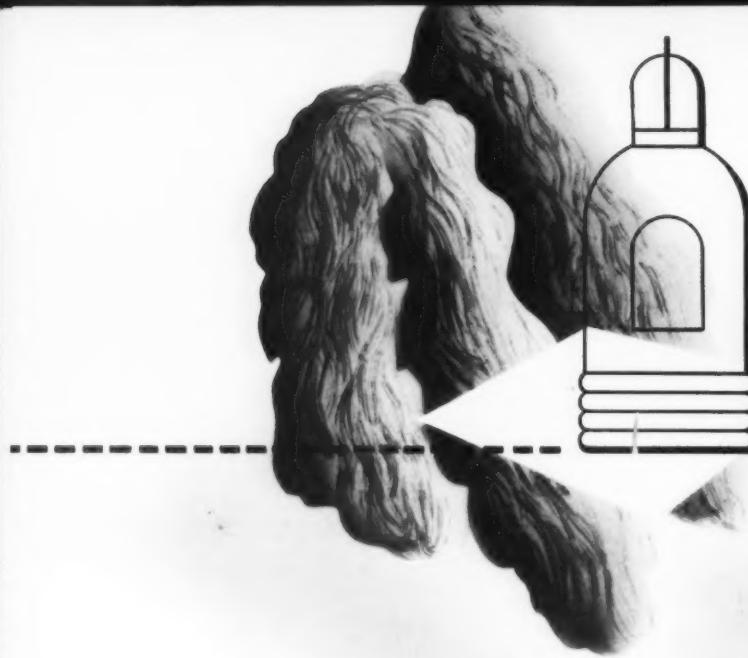
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We shall be glad to offer specific suggestions if you will tell us in confidence about your problems. You are welcome to make use of our complete facilities and services — including aromatic materials in any desired stage of fabrication up to the finished composition, and counsel to aid in your search for new ideas. Please feel free to call upon us.

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New Designs and New Molds for Cosmetic Glassware Permitted

With the revocation of M-51 by the National Production Authority glass manufacturers are now permitted to supply new molds and designs for cosmetic bottles and jars. The revocation of the order is due to the work of the T. C. Wheaton Co. which realized as far back as June 1951 that the order was a hardship on the cosmetic industry. Accordingly it delegated H. H. Mills, assistant to the president of the company, to approach the proper authorities in Washington so as to have the order rescinded or have some exceptions made so that the cosmetic industry would not be stymied.

Since August Mr. Mills spent most of his time in Washington emphasizing the importance to the cosmetic industry of new packaging and creative styling. The Glass Blowers Assn. supported Mr. Mills' work; but that seemingly was the only active support he was able to enlist. After careful consideration of the evidence the order was revoked December 18.

M-51 prohibited the use of any molds that had not been used in production prior to March 1951.

Tribute Paid to Jacob Reck For Outstanding Service

In appreciation of the brilliant and outstanding service rendered to the industry, the National Beauty and Barber Manufacturers' Assn. tendered a testimonial dinner to its executive vice president and counsel, Jacob Reck in the Gotham Hotel, New York, December 11. The dinner was well attended and the enthusiasm displayed by those present was a deserved tribute to a very able and likeable man.

As a result of Mr. Reck's work the 20% excise tax on cosmetics used professionally in beauty and barber shops was repealed. In addition to lifting this burden from the back of the industry he in-

duced Congress to exempt beauty and barber shops from price ceilings under O.P.S. His work in dealing with the Federal Trade Commission, the Food and Drug Administration, the National Production Authority and the Office of Price Stabilization is well known.

Mr. Reck was born in Union City, N. J. and is 49 years old. Over 11 years of study in colleges and universities served to equip him



Jacob Reck

for his life work. The universities attended were: Cornell, Columbia (journalism and finance), Georgetown (law), University of New Jersey (graduate law) and Rutgers (education).

After practicing law in New Jersey from 1927 to 1935 he became associated with Eugene C. Brokmeyer in Washington in the practice of administrative law, dealing with government agencies on matters involving drugs and cosmetics. For six years he edited the Brokmeyer Bulletin. In 1942 he became counsel for the National Beauty and Barber Manufacturers Assn. where he did yeoman service for the industry in having the War Production Board allocate sufficient materials to enable beauty and barber shops to continue operations. He also handled the industry's problems before the O.P.A.

Fritzsche Brothers Meeting Features Flavor, Perfume Talks

Discussions of flavors, perfumes and related problems keynoted the week-long annual sales conference of Fritzsche Brothers, Inc., attended by the sales staff, executives and departmental heads.

Following a welcome by president F. H. Leonhardt, general discussions were conducted by vice-presidents John H. Montgomery, H. P. Wesemann, Joseph A. Huisking and Fred Leonhardt, Jr., treasurer John Cassullo and others. Robert Krone, Ray Thompson and Dr. E. H. Hamann led a forum on flavors, and Kenneth Tracy, Ernest Lawson and George Ammersbach conducted a discussion of perfumes and related matters. The entire sales staff attended a cocktail party and buffet supper at the Forest Hills home of Mr. and Mrs. Huisking, one of several informal executive-sponsored parties. Shown above are executives, sales staff and New York department heads at a luncheon-meeting.

A. M. Kahn Board Chairman of Consolidated Products Co.

A. M. Kahn has been advanced to chairman of the board of the Consolidated Products Co., Inc., 15 Park Row, New York, N.Y. The ceremony took place at a testimonial dinner tendered in his honor at the Waldorf Astoria Hotel on the occasion of the 35th anniversary of the founding of the company. Herman Kahn has been elected president and M. I. Cowen, treasurer.

In his speech of acceptance Mr. Kahn indicated that the growth of the Consolidated Products Co., Inc., considered the largest company handling used equipment for the chemical and process industries, coincided with the tremendous strides and expansion of the American chemical industries since World War I. He is president of Spear & Co., furniture house, and of Acme Hamilton Rubber Co.

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character of the very finest
absolute at one tenth the cost.

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S. B. Penick & Co. and the New York Quinine & Chemical Co. joint sales meeting.

Penick & Co., Quinine and Chemical Co. Joint Sales Meet

S. B. Penick & Co. and the New York Quinine & Chemical Co. have concluded a joint four-day Sales Meeting in New York, N. Y. Sessions were held at the Railroad Machinery Club, and the meeting closed with an all-day tour of plant facilities in New Jersey.

All representatives of both companies were present to hear a program covering every phase of operations, with all departments actively participating. After each presentation the sales staff took part in an informal question-and-answer discussion. S. B. Penick Sr., chairman, was among the speakers.

Lectures Mark Three-Day Ungerer Sales Meeting

Lectures and discussions emphasizing trends in essential oils and aromatic chemicals, perfume raw materials, sales, service and packaging marked the recent three-day sales meeting of Ungerer & Co.

F. H. Ungerer, chairman of the board of directors, and W. A. Bush, general sales manager, welcomed the sales representatives in behalf of the company. K. G. Voorhees, president and treasurer, reviewed trends in essential oils and aromatic chemicals, and also outlined production plans for the Totowa, N.J., factory. W. H. Dunney, Jr., vice-president, led a discussion on sales, service, packaging and shipping, and also spoke on uses of various types of perfume specialties, compounds, procurement of raw materials for compounding and other matters.

Dr. Darrel Althausen, technical director of the company, lectured on "Profiles in Aromatics and Flav-

ors" at the Totowa plant, and also conducted a tour through the factory, explaining manufacturing methods and pointing out changes.

The meeting was attended by the following: F. H. Ungerer, chairman of the board of directors; K. G. Voorhees, president and treasurer; I. H. Budd, first vice-president; H. B. Moore, second vice-president; W. H. Dunney, Jr.; third vice-president and perfumer; W. A. Bush, secretary, general sales manager and advertising manager; Dr. Darrell Althausen, technical director; G. V. Branigan, head of the chemical control laboratory; W. H. Dunney, Sr., perfumer; and special sales representatives H. J. Ahles, Ira Bennett, J. R. Martin, J. L. Slais, W. E. Kell, E. C. Dohrmann, N. E. Gallagher, C. T. Perez, H. Budd; F. F. Dittrich, credit manager; F. M. Miller, Jr., Jacques F. M. Miller, Jr., assistant general sales manager and advertising manager; Jacques Honan and Sven Andersen, flavor chemists; Ralph Baer, chemist pilot control; and Philip Berry, assistant purchasing agent.

BIMS Annual Dinner at N. Y. Athletic Club January 31

The Annual dinner of the BIMS will be held at the New York Athletic Club on the evening of January 31. Sewell Corkran will be master of ceremonies and Harry Griffiths will distribute prizes. Cocktails will be served at 6 p.m. and dinner at 7 p.m. Informal dress is specified.

Chicago Drug & Chemical Assn. Ends 51st Year with 640 Guests

The Chicago Drug and Chemical Assn. celebrated its 51st year by having the largest attendance ever, 640

guests and members, at their Stag Party in the Palmer House, Dec. 18. Four variety acts, boxing by the champions of the Catholic Youth Organization, and two wrestling exhibitions were the highlights of the evening. The usual cocktail party preceded the dinner and show.

Ralph A. Olson is president of the association, and the party was planned and directed by Stanley Lind, chairman and William G. Lister, co-chairman.

Father Knapp Chief Speaker at ADACIOM First 1952 Meeting

The Rev. Father Thomas M. Knapp, S.J., was the guest speaker at the first meeting of the new year of the Associated Drug & Chemical Industries of Missouri at the Hotel Lennox, St. Louis, January 9.

Fragrance Foundation Meeting Features Christmas Review

The Fragrance Foundation will hold its second quarterly luncheon-meeting on Thursday, January 17, in the Waldorf-Astoria, New York, N. Y., for member-companies only. The meeting will feature a report on the fragrance business of Christmas 1951, based on a survey of the leading retailers throughout the country.

Hagerty Bros. & Co. taken over by J. Rabinowitz & Sons

J. Rabinowitz & Sons Inc. has acquired the century old firm of Hagerty Bros. & Co., glass container distributors. Joseph F. Kelly as heretofore, will continue to operate Hagerty Bros. & Co. as a separate division of J. Rabinowitz & Sons Inc.



Above are the 1952 officers of the Chicago chapter of the S.C.C.: chairman elect Douglas Atlas, treasurer Wm. E. Lieb, Dr. Katherine Graham, secretary, and chairman George Kola.



Relaxing at the November meeting of the Chicago chapter of the S.C.C. are Peter Parker, Dr. M. Bergman, Dr. S. Kramer, Dr. S. D. Gershon, A. H. Micheels, Dr. Wm. Colburn, and M. G. deNavarre.

Chicago Chapter of S.C.C. Installs Officers for 1952

The officers for the Chicago chapter of the S.C.C. for 1952 were installed at a recent meeting of the organization. The feature of the evening was an address by M. G. deNavarre on "Substitute Materials in Cosmetics."

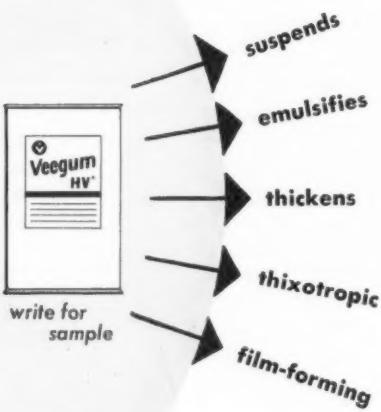
"Irritation and Toxicity Testing of Cosmetics" was the subject of a lecture by Dr. Lawrence Rosner at the January 8 meeting of the chapter. He emphasized the laboratory techniques used in such tests. Dr. Rosner is technical director of the Laboratory of Vitamin Technology.

Vogler—out of Iron Curtain Prison to Talk to Soap Assn.

Robert A. Vogler, who spent 17 months in an Iron Curtain country prison on trumped up spy charges will be the feature speaker at the annual dinner of the Assn. of American Soap & Glycerine Producers, January 23.

Prominent government officials have been scheduled to address the business sessions and panel discussions on problems of concern to various groups will be featured at the business sessions January 22 and 23.

ANOTHER advantage of **VEEGUM HV***



write today for Technical Bulletin 110

FOR EMULSIFYING: A 3% dispersion of VEEGUM HV will form a stable oil-in-water emulsion with as much as 35% medium viscosity mineral oil. Less than 1% VEEGUM HV will permanently stabilize many types of emulsions containing various oils, fats, and waxes. Liquid emulsions containing significant amounts of electrolytes can be stabilized effectively with VEEGUM HV.

VEEGUM HV is a recommended emulsifying agent in hand lotions, shaving preparations, dental creams, deodorants, hair preparations, pigmented makeup, sun-tan lotions, and other pharmaceutical and cosmetic preparations.

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Inorganic, non-toxic, non-irritating



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The American Perfumer

Among Our Friends

WILLIAM D. CANADAY has been appointed vice president in charge of sales for Peggy Sage, Inc. After graduation from Harvard Mr. Canaday joined the Lehn & Fink Products Corp. and in 1933 became general sales manager and later vice president and a director of Lentheric, Inc.

FRANCOIS DE LAIRE, of Fabriques de Laire, Paris, France, returned December 14 to Paris after spending several weeks in New York conferring with JOSEPH F. RUDOLPH, president of Dodge & Olcott, Inc., and HENRI ROBERT, director of the de Laire division.

LEONARD J. LEININGER has resigned as president of the Cenol Co., Chicago, Ill. He was one of the founders of the company in 1911. After a well earned vacation he will re-enter business in some field requiring less active work.

DR. ERNEST GUENTHER, vice president and technical director of Fritzsche Brothers Inc. New York, N.Y. is on a four weeks lecture tour that will take him to the Pacific coast.

OWEN STONER assumed his new position as president of Prince



Owen Stoner

Matchabelli, Inc. January 1 succeed-
ing H. R. MARSHALK who be-
came chairman of the board.

DAVID M. KENDALL has re-
signed as executive vice-president
of Christian Dior Perfume Corp.
He intends to make his plans
known in the near future.

JOHN W. PURCELL has joined
S. B. Penick & Co. in a sales capac-
ity, in line with the expansion pro-

gram embracing the Insecticide Di-
vision.

LEE SMITH has been appointed
coordinator between the New York
sales department and the factory
operations of Tussy Cosmetiques.

SAMUEL RUBIN, president of
the Fragrance Foundation and Fa-
berge, recently addressed the Canadian
Toilet Goods Assn. in To-
ronto.

LUIS DE HOYOS JR. will leave
January 16 for a six weeks trip to
Central and South America to visit
the many friends and customers of
Synfleur Scientific Laboratories,
Inc. in the Latin American coun-



Luis de Hoyos, Jr.

tries. The countries to be visited are
Guatemala, El Salvador, Panama,
Colombia, Costa Rica and Vene-
zuela.

DR. JOSEPH SCHULTZ, gen-
eral manager of Lady Esther, Ltd.,
has been elected president and
treasurer of the firm, succeeding
Alfred Busiel, who died Dec. 13
in Honolulu. DR. SCHULTZ and
WALTER M. HEYMANN, vice-
president, First National Bank, Chi-
cago, have been elected directors.

DONALD D. AITCHISON has
been appointed Purchasing Agent
for Daggett & Ramsdell, Inc., New-
ark, N. J.

GUSTAVE A. WOHLFORT, comptroller and long time em-
ployee of Fritzsche Brothers, Inc., is
rapidly recovering at Mount Ver-
non (N.Y.) Hospital from major
surgery.

ERNEST EDGAR LOWELL has joined Shulton Inc. as chain
drug sales promotion coordinator.

GEOFFREY B. SMITH, for-
merly assistant sales manager, has



Geoffrey B. Smith

been promoted to sales manager of
Helena Rubinstein, Inc.

Obituary

Alfred Busiel

Alfred Busiel, 51, president of
Lady Esther, Ltd., died December
13 in Honolulu where he had been
living for reasons of health. Mr.
Busiel and his sister, Syma Cohen,
founded the firm in 1928. He was
co-founder of and leading contrib-
utor to the Chicago Tumor clinic
and contributed to cancer research
at the New York hospital and at
Washington University, St. Louis.
He also sponsored and financed
nonprofit research on malaria during
World War II and since then
on atomic radiation.

E. M. Laning

E. M. Laning, founder and presi-
dent of the E. M. Laning Co., Irvington,
N.J. who had been associated with the perfumery and cos-
metic industry for over 30 years
died at his home December 19, 1951
following a heart attack. Mr. Laning
was graduated from Cooper Union
where he specialized in chemistry.
He developed a natural talent
for creating odors and in 1919 won
the American Perfumer perfumery
contest for producing the most ac-
ceptable odor against the field of
some of the foremost American and
European perfumers. Shortly after-
wards he founded his company in
New York, moving his office and
laboratory to Irvington, N.J. in
1931. He had a summer home in
Parkertown, N.J. where he was able
to enjoy his favorite recreation. He
is survived by his widow and three
sons Elmer, Edwin and Horace. In
many ways Mr. Laning was a genius
in his chosen field and he will be
missed by the industry which he
served for so many years.

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For the past quarter century we have confined our efforts exclusively to the production of the Resinoids and Essential Oils listed herewith.

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If you wish to deal directly with specialists,
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 Resinoid OLIBANUM
 Resinoid STYRAX
 Resinoid BENZOIN SIAM
 Resinoid GALBANUM
 Resinoid OPOPONAX
 Resinoid OAKMOSS
 Resinoid ORRIS
 Resinoid BALSAM PERU
 Resinoid BALSAM TOLU
 Resinoid MYRRH
 Resinoid MASTIC
 Resinoid MACE
 Resinoid CASTOREUM
 Resinoid TONKA

Oil BALSAM PERU
 Oil BALSAM TOLU
 Oil LABDANUM
 Oil OLIBANUM
 Oil GALBANUM
 Oil OPOPONAX
 Oil STYRAX
 Oil MYRRH
 Oil MASTIC

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Market Report

Low Stock May Boost Weak Trade

THE essential oil and aromatic chemical trade is facing a new year with a general feeling of optimism. Year-end holiday purchases have permitted consumers to work off inventories which had been built up following the outbreak of the Korean conflict and buyers will find that replacement purchases of many items may be made at more favorable price levels.

Last Quarter Trade Slow

Trade in the last quarter of 1951 proved rather disappointing to dealers and producers, but it is believed that when figures are completed showing the year's total, satisfactory gains will be shown both in value as well as in volume.

Such articles as citronella, lemongrass, menthol, patchouli, and Dalmatian sage are at the lowest price levels of the year. Articles showing increased strength include spearmint, clove, bergamot and cassia.

The past month brought about a rather substantial dip in rosin prices. While there were times when the market showed signs of recovering, seasonal influences served to prevent the appearance of any real supporting demand in the market. The longer term outlook in rosin is regarded as bullish however, especially regarding the first quarter of the new year. Output of gum will come to a halt because of cold weather and producers of wood rosin have curtailed their output until such time as a more active consumer demand appears. Small stocks of gum rosin will have to take care of consumer requirements until another producing season gets underway in April.

Chlorophyll products were an exception to the generally disappointing demand for chemicals. The continued expanded use of deodorants as well as the recent introduction of chlorophyll into

dentifrices and confections were contributing factors in boosting sales of these products. Because of the growing demand for the article some dealers had been forced to withdraw offerings of all chlorophyll products.

Large consumer inventories which had been accumulated during the scare buying period following the Korean conflict were behind the generally disappointing demand for menthol over the final quarter of the year. As the result of this situation, spot prices continued to decline despite the generally firm conditions that surrounded the market. Brazil had been virtually sold out of the last crop for several months. Supplies from China remained cut off and offerings from Japan were generally limited and at relatively high prices when compared with those at which spot goods could be had. Closing prices were approximately \$4.50 per pound below the quotations prevailing at the beginning of the year. The most active consumer season is at hand, however, and this should allow consumers to work off or reduce inventories. It is quite possible that by late January or early February some replacement purchases may prove necessary.

New Glycerin Price Order

A price order was announced on glycerin by O.P.S. over the past month. The new order set the minimum price for crude soap lye glycerin at 37 cents per pound in tankcars whereas the article previously sold above 40 cents a pound. The maximum prices established on refined glycerin were about in line with those that were currently being quoted in the open market. Glycerin producers will go into a new year with generally reduced stocks or just a little over 50,000,000 pounds. Glycerin stocks had been steadily declining since March at which time stocks amounted to 65,000,000 pounds.

The supply position in several citrus oils is considerably better than it was in the first half of the year particularly with respect to orange. Independent producers of Californian orange oil have been shading prices in an effort to stimulate buying interest and the appearance of increasing quantities of new crop oil from Florida have influenced the general tone of the market. Buying interest in lime had been lessened from the active period noted during the summer months. Some low quality Italian lemon oil has been offered at attractive prices but oil of a higher quality has closely held at firm prices.

Spearmint Supply Insecure

The future supply of spearmint is creating concern in not a few quarters, since only a very small percentage of the last crop remains unsold. The article is selling at the highest price level in some time and dealers are encountering difficulty in locating any sizeable offerings at the higher levels. Peppermint showed a slightly firmer tone toward the close of the period under review. Both spearmint and peppermint are widely used flavoring oils and a continued high rate of demand will undoubtedly prove a supporting factor to the general tone of the market.

The past month brought about a further slight decline in Mexican vanilla beans. Although the last crop of Mexican beans had been small nevertheless the spread between the prices of the Mexican and Bourbon beans had been too wide. Bourbon beans continued to be offered at relatively low price levels. Some reports continued to be rather bearish. It is understood that quite a sizeable quantity had been purchased in Madagascar and, in the local trade, there was an inclination on the part of certain interests to purchase any odd lots that were to be had a slightly below openly quoted prices.

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All prices per lb. unless otherwise specified.								
Almond Bit, FPA per lb. .	3.25@	4.25	Java	1.10@	1.25	Petale, extra NF	155.00@	180.00
Sweet True .....	.58@	.75	Java type .....	.95@	1.75	Nutmeg, East Indian	4.35@	5.50
Apricot Kernel .....	.55@	.70	Cloves, Zanzibar	3.65@	3.75	Ocotea Cymbarum .....	.80@	1.00
Amyris	1.75@	2.50	Madagascar	3.70@	3.90	Olibanum	5.30@	7.00
Angelica Root	135.00@	170.00	Copaiba	2.50@	3.00	Opopanax	45.00@	48.00
Anise, U.S.P.	1.70@	1.85	Coriander	25.00@	30.00	Orange, Florida	2.10@	2.50
Aspic (spike) Span	2.00@	2.75	Croton	5.00@	6.20	Brazilian	1.50	Nom'l
Avocado	1.00@	1.10	Cumin	5.65@	7.00	Calif., exp.	1.85@	2.75
Bay	1.65@	2.10	Dill—			Distilled	1.10@	
Bergamot	15.00	Nom'l	Weed	4.00@	4.50	Origanum, rectified	2.75@	3.25
Artificial	3.25@	4.25	Seed	6.25@	6.85	Oris Root, abs. (oz.)	65.00@	70.00
Birehtar, crude	1.50@	1.55	Erigeron	6.50@	7.00	Artificial	36.00	Nom'l
Birehtar, rectified	4.00@	4.50	Eucalyptus 80-85%	1.30@	1.55	Patchouli	10.00@	12.00
Bois de Rose	4.65@	5.00	Fennel, Sweet	2.40@	3.20	Pennyroyal, Amer.	4.10	Nom'l
Cade, U.S.P. ....	.40@	.60	Garlic (oz.)	6.50@	7.00	European	4.25@	4.85
Cajeput U.S.P.	2.15@	2.50	Grapefruit	1.70@	2.25	Peppermint natural	7.10@	7.40
Cajuput (technical)	2.45@	2.65	Geranium, Rose, Algerian	21.00@	25.00	Redistilled	7.50@	7.80
Calamus	20.00@	25.00	Bourbon	20.00@	24.50	Petitgrain	3.15@	3.75
Camphor "White" .....	.28@	.50	Turkish	7.25@	9.00	Pimento, Berry	4.60@	5.50
Cananga, native	9.25@	11.00	Ginger	19.25@	22.00	Leaf	2.55@	3.00
Rectified	9.75@	13.25	Guaiac (Wood)	1.75@	2.00	Pinus Sylvestris	2.65@	2.85
Caraway	4.05@	5.10	Hemlock	2.25@	2.80	Pumilio	2.85@	3.20
Cardamon	58.00@	70.00	Juniper Berry	2.75@	3.60	Rose, Bulgaria (oz.)	42.25@	58.00
Cascarillo	40.00@	48.00	Laurel leaf	4.00@	4.85	Synthetic, lb.	26.00@	32.00
Cassia, rectified, U.S.P.	5.00@	5.75	Lavandin	3.25@	4.50	Rosemary, Spanish .....	.75@	1.25
Cedar leaf U.S.P.	2.85@	3.25	Lavender, French	4.25@	8.25	Sage, Spanish	1.00@	1.85
Cedar Wood .....	.55@	.70	Lemon, Calif.	4.75@	5.00	Sage, Dalmatian	12.00@	13.10
Celery	16.50@	20.00	Italian	3.75@	8.00	Sandalwood, N. F.	11.50@	12.00
Chamomile Hungarian	280.00@	325.00	Lemongrass	2.30@	2.80	Sassafras—		
Cinnamon oil, Bark	35.00@	50.00	Limes, distilled	7.85@	9.15	Artificial .....	.75@	1.00
Leaf	2.25@	3.10	Expressed	7.50@	10.00	Snake root	31.00@	35.00
Citronella, Ceylon	1.20@	1.50	Linaloe wood	4.50@	4.80	Spearmint	8.00@	8.50
			Lovage (oz.)	10.00@	12.00	Spruce	2.25@	2.75
			Mace	4.55@	6.00	Sweet birch Southern	2.25@	3.00
			Marjoram	4.35@	4.60	Northern	4.90@	7.50
			Neroli, Bigarde P.	85.00@	95.00	Tansy	8.60@	9.00

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Thyme, red	1.95@	3.00
White	2.25@	2.80
Valarian, extra	75.00@	88.00
Vetivert—		
Bourbon	25.00@	32.00
Haitian	22.00@	25.00
Java	35.00@	38.00
Wintergreen, Southern	3.35@	15.00
Northern	6.00@	13.50
Wormseed	7.25@	8.00
Wormwood	6.75@	7.00
Ylang Ylang, Bourbon	18.50@	25.00
Haitian	12.85	Nom'l

TERPENELESS OILS

Bay	2.70@	2.90
Bergamot	21.50@	23.00
Grapefruit	30.00@	38.00
Lavender	11.00@	15.00
Lemon	50.00@	52.00
Lime, ex.	80.00@	90.00
Distilled	60.00@	62.00
Orange sweet	135.00@	170.00
Peppermint	15.00@	15.25
Petitgrain	5.50@	6.40
Spearmint	12.75@	15.00

DERIVATIVES AND CHEMICALS

Acetaldehyde 50%	2.15@	2.50
Acetaphenone	1.60@	1.80
Alcohol C 8	2.00@	2.35
C 9	12.60@	14.00
C 10	2.00@	2.30
C 11	13.60@	14.50
C 12	2.30@	2.65
Aldehyde C 8	9.00@	11.00
C 9	17.10@	17.30
C 10	8.35@	8.60
C 11	18.60@	20.00
C 12	15.75@	16.50
C 14 (Peach so-called)	6.85@	7.50
C 16 (Strawberry)		

so-called	6.25@	.70
Amyl Acetate	.60@	.70
Amyl Butyrate	1.00@	1.25
Amylcinnamic Aldehyde	2.20@	2.40
Amyl Formate	1.00@	1.25
Amyl Phenylacetate	3.75@	4.10
Amyl Propionate	1.25@	1.60
Amyl Salicylate	1.00@	1.25
Amyl Valerenate	2.10@	2.50
Anethol	1.40@	1.60
Anisic Aldehyde	2.70@	2.90
Anisyl Acetate	6.00@	6.75
Benzyl Acetate	.75@	.85
Benzyl Alcohol	.78@	.85
Benzyl Butyrate	2.00@	2.35
Benzyl Cinnamate	3.30@	3.60
Benzyl Formate	2.00@	2.30
Benzophenone	1.75@	2.00
Benzyl-Iso-Eugenol	9.75@	10.00
Benzyl Propionate	1.60@	2.20
Benzyl Salicylate	1.90@	2.10
Benzylidene Acetone	2.00@	2.75
Bromstyrol	5.75@	6.35
Butyl Acetate, normal	19.4@	20.4
Cinnamic Alcohol	3.10@	3.75
Cinnamic Aldehyde	1.25@	1.40
Cinnamyl Acetate	3.75@	4.50
Citral, C. P.	7.50@	8.10
Citronellol	3.20@	3.85
Citronellyl Acetate	4.95@	5.20
Citronellyl Butyrate	6.50@	6.85
Coumarin	2.95@	3.50
Cuminic Aldehyde	5.90@	6.35
Diethylphthalate	.50@	.55
Dimethyl Anthranilate	5.75@	6.00
Diphenyl Methane	1.15@	1.30
Ethyl Acetate	.35@	.38
Ethyl Benzoate	.85@	.90
Ethyl Butyrate	.80@	.95
Ethyl Capronate	2.20@	3.15
Ethyl Cinnamate	2.45@	2.80
Ethyl Formate	.70@	.80
Ethyl Propionate	.90@	1.00
Ethyl Salicylate		1.00@
Ethyl Vanillin		7.30@
Eucalyptol		2.50@
Eugenol		3.50@
Geranoil, dom.		2.00@
Geranyl Acetate		2.75@
Geranyl Butyrate		6.30@
Geranyl Formate		6.35@
Guaiac Wood Acetate		4.65@
Heliotropin, dom.		3.50@
Hydrotropic Aldehyde		6.30@
Indol, C. P.		20.00@
Beta		8.75@
Methyl		7.50@
Iso-borneol		1.65@
Iso-butyl Acetate		.85@
Iso-butyl Benzoate		1.10@
Iso-butyl Salicylate		2.15@
Iso-eugenol		4.65@
Iso-safrol		2.10@
Linalool		6.75@
Linalyl, Acetate 90%		6.25@
96%		6.75@
Linalyl Formate		13.05@
Linalyl Propionate		11.90@
Menthol		9.10@
Methyl Acetophenone		1.50@
Methyl Anthranilate		2.60@
Methyl Benzoate		.60@
Methyl Cinnamate		1.75@
Methyl Heptenone		7.15@
Methyl Heptine Carbonate		45.00@
Methyl Naphthyl Ketone	4.75	Nom'l
Methyl Phenylacetate		1.20@
Methyl Salicylate		.55@
Musk Ambrette		5.60@
Ketone		5.35@
Xylene		1.65@
Neroline (ethyl ether)		2.50@
Paracresyl Acetate		2.20@
Paracresyl Methyl Ether		2.50@
Paracresyl Phenyl-acetate		4.75@

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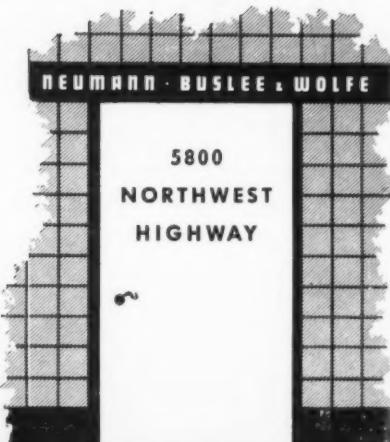
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Phenylethyl Acetate	2.00@	2.50
Phenylethyl Alcohol	1.75@	2.00
Phenylethyl Butyrate	4.20@	4.50
Phenylethyl Propionate	3.10@	4.00
Phenylethyl Salicylate	4.35@	4.80
Phenylethyl Valerianate	5.70@	5.90
Phenylpropyl Acetate	3.40@	4.20
Safrol	1.25@	1.50
Seitol C. P. (oz.)	2.65@	3.40
Styrolyl Acetate	1.90@	2.50
Vanillin (clove oil)	5.00@	5.50
(guaiacol)	3.00@	5.05
Lignin	3.00@	3.05
Vetiver Acetate	47.50@	50.00
Violet Ketone Alpha	9.90@	10.25
Yara Yara (Methyl ether)	2.25@	2.80

BEANS

Vanilla beans—		
Bourbon	2.90@	3.15
Mexican, cut	4.25@	4.75
Mexican, whole	5.00@	5.50
Tahati	2.50@	2.90
Tonka Beans Surinam	1.00@	1.10
Angostura	1.75@	1.80

SUNDRIES AND DRUGS

Acetone	.101/4@	.14
Ambregris, ounce	8.00@	17.50
Balsam, Copiba	1.40@	1.60
Peru	1.95@	2.25
Beeswax, bleached, pure U. S. P.	.80@	.82
Yellow, refined	.73@	.75
Bismuth, subnitrate	2.65@	
Borax, crystals, carlot ton	61.25@	81.25
Boric Acid, U. S. P., ton	129.00@	133.50
Calcium, Phosphate	.08@	.083/4

Phosphate, tri-basic	.063/4@	.071/2
Camphor, pwd., domestic	.60@	.62
Castoreum, nat., cans	7.10@	15.00
Cetyl, Alcohol	1.32@	1.37
Chalk, precip. bags, elts	.02%@	.03

Cherry Laurel Water, jug, gal.	1.25	Nom'l
Citric Acid	281/2@	291/2
Civet, ounce	4.25@	12.00
Cocoa, butter, bulk	.601/2@	.62
Cyclohexanol (Hexalin)	.30@	.32

Dextrine, white, cwt.	8.44@	—
Fuller's Earth, Mines ton	27.00@	30.00
Glycerin, C. P.	.543/4@	.551/4
Soap lye, crude	.37@	—
Gum Arabic, pwd.	.21@	.22

Gum Benzoin, Amber	.161/4@	.171/2
Gum Benzoin, Siam	3.50@	3.85
Sumatra	.40@	.42
Gum Galbanum	.80@	.95
Gum Myrrh	.30@	.37

Henna, pwd.	.25@	.27
Kaolin	.05@	.07
Labdanum	5.00@	7.00
Lanolin, hydrous	.34@	.35
Anhydrous	.36@	.38

Magnesium, carbonate	.111/4@	.14
Stearate	.42@	.44
Musk, ounce	40.00@	50.00
Olibanum, tears	.20@	.25
Siftings	.16@	.18

Orange Flower Water, gal.	1.75@	2.25
Orris Root, Italian	.20@	.26
Paraffin	.06%@	.07%
Peroxide (hydrogen U. S. P.) bbls.	.033/4@	.05

Petrolatum, white	.063/4@	.083/8
Quince Seed	.85@	1.50
Rice Starch	.14@	.18
Rose flowers, pale	.40@	.48
Rose Water, jug (gal.)	1.50@	2.00

Rosin, M. per cwt.	9.25@	9.30
Salicylic Acid	.42@	Nom'l
Saponin No. 1	2.45@	2.60
Silicate, 40°, drums, works,		
100 pounds	1.10@	1.40

Sodium Carb.		
58% light, 100 pounds	1.60@	4.62
Hydroxide, 76% solid,		
100 pounds	3.35@	4.55
Spermaceti	.34@	.37

Styrax		
1.50@	1.85	
Tartaric Acid	.391/2@	.41
Tragacanth, No. 1	.375@	4.25
Triethanolamine	.261/4@	.271/4

Violet Flowers		
Gum Arabic, pwd.	.41@	.43
Oxide, U. S. P.	2085@	2185

OILS AND FATS

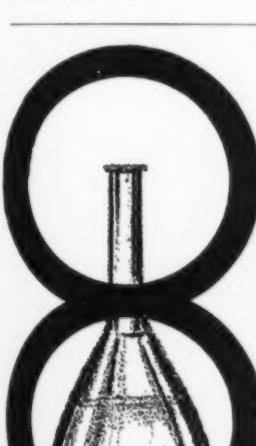
Castor, refined, drums	.361/4@	.363/4
Coconut, crude, Atlantic ports, tanks	.131/2@	—
Double distilled, drums	.203/4@	.22
Corn, crude, Midwest, mill, tanks	.143/4@	.15

Corn Oil, refined, tanks	.17@	—
Cottonseed, crude tanks	.131/4@	.14
Grease, white	.081/2@	—
Lard, Chicago	.161/2@	—

Lard, Oil, common, No. 1 drums	.11@	.12
Olive, edible (gal.)	2.00@	2.25
Peanut, crude tanks	.171/2@	—
Peanut, refined tanks	.201/2@	—

Red Oil, single distilled drums	.14@	.143/4
Double distilled	.161/2@	.171/4
Stearic Acid		
Triple Pressed	.143/4@	.15
Double Pressed	.121/2@	.13

Tallow, acidless, drums	.131/2@	.14
Tallow, extra	.071/2@	.071/2



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INDEX TO ADVERTISERS

Arose Chemical Co.	—
Alsop Engineering Co.	—
American Cholesterol Products, Inc.	72
Aromatic Products, Inc.	—
Association of American Soap & Glycerine Producers, Inc.	—
Atlas Powder Co.	—
Avon Products, Inc.	6
 Berje Chemical Products, Inc.	—
Bopf Whittam Corp.	—
Bridgeport Metal Goods Mfg. Co.	—
Bush & Co., Inc., W. J.	1, 69
Bush Aromatics Division of The Dow Chemical Co.	Inside Back Cover
 California Fruit Growers Exchange .	8
Calmar Co.	—
Cameo Die & Label Co.	68
Camilli, Albert & Laloue, Inc.	76
Carbide and Carbon Chemical Division, Union Carbide and Carbon Corporation	—
Carr-Lowery Glass Co.	12
Cavalla, Inc., A.	68
Chiric Co., Inc., Antoine	60
Classified Advertisements	74
Consolidated Fruit Jar Co.	—
Cosmetic Laboratories, Inc.	—
Cosmetries, Inc.	68
 DeLaire Division of Dodge & Olcott 40	
Dodge & Olcott, Inc.	13, 50
Dryer, Inc., P. R.	—
 Estrolko, Ltd.	—
Fairmont Chemical Co., Inc.	75
Felton Chemical Co., Inc.	5
Firmenich & Co.	Back Cover
Fleuroma, Inc.	—
Florasynth Laboratories, Inc.	—
French, Benjamin, Inc.	71
Fritzsche Brothers, Inc.	—
Insert between 8-9	
Gair Co., Inc., Robert	—
Geneva Aromatics, Inc.	—
Givaudan-Delawanna, Inc.	—
Insert between 52-53	
Glyco Products	—
Goldschmidt Corp., The	16
Gunning & Gunning, Inc.	—
 Halby Products	—
Hamza Plantations	—
Hazel Atlas Glass Co.	—
Heyden Chemical Corp. Facing page 63	—
Horn, John	75
 Industrial Aromatic Co., Inc.	66
International Wax Refining Corp.	—
Ising Corp., C. E.	—
 Jarnac Products Co.	—
Katz, Dr. Alexander & Co., Div. of F. Ritter & Co.	—
Kenbury Glass Works	—
Klinker Mfg. Co., The	—
Kolar Laboratories, Inc.	—
 Laning, E. M., Co.	66
Lanitis Bros., Ltd.	7
Lautier Fils, Inc.	—
Leeben Chemical Co., Inc.	56
Leonhard Wax Co., Inc., Theodor ..	66
Leuders & Co., George	2
 Mack Molding Co.	—
Malmstrom & Co., N. I.	—
Mane Fils, V.	—
Martinat, Jean Jacques, Dr.	75
Maryland Glass Corp. ... Facing page 52	—
 Naugatuck Aromatics	9
Neumann Buslee & Wolfe, Inc.	72
New York Aromatics Corp.	—
Norda Essential Oil & Chemical Co. Inc.	66, 68, 70, 74
Northwestern Chemical Co., The ...	—
 Orbis Products Corp.	—
Owens-Illinois Glass Co.	—
 Pantone Press	—
Parento, Inc., Compagnie	—
 Parsons-Plymouth, M. W.	73
Peerless Tube Co.	—
Penick & Co., S. B.	—
Polak & Schwartz, Inc.	—
Polak's Frutal Works	46
 Reheis Co.	63
Richford Corp.	—
Ritter & Co., F.	—
Robertet, Inc., P.	—
Robinson Wagner Co., Inc.	—
Roubechez, Inc.	—
Roure-Dupont, Inc.	14
 Schimmel & Co., Inc.	62
Scovill Manufacturing Co.	—
Sheffield Tube Corp.	—
Snell, Foster D., Inc.	—
Solvay Sales Div., Allied Chemical & Dye Corp.	75
Special Glass Products Co.	—
Standard Cap & Molding Co.	—
Standard Synthetics, Ltd.	—
Stanton Chemical Co.	—
Sudbury Import Co.	—
Synfleur Scientific Laboratories, Inc.	18
Syntomatic Corp.	48
 Tombarel Freres	54
Tombarel Products Corp.	50
Turner White Metal Co., Inc.	—
 Ungerer & Co.	Inside Front Cover
Union Carbide and Carbon Corporation Carbide and Carbon Chemicals Division	—
 van Amerigen Haebler, Inc.	10-11
Vanderbilt Co., Inc., R. T.	6
Verley & Co., Albert ...	Between 60-61
Verona Chemical Co.	—
Voss Corporation, Karl	70
 Whittaker, Clark & Daniels	7
Will & Baumer Candle Co., Inc.	7
Wirz, Inc., A. H.	Front Cover



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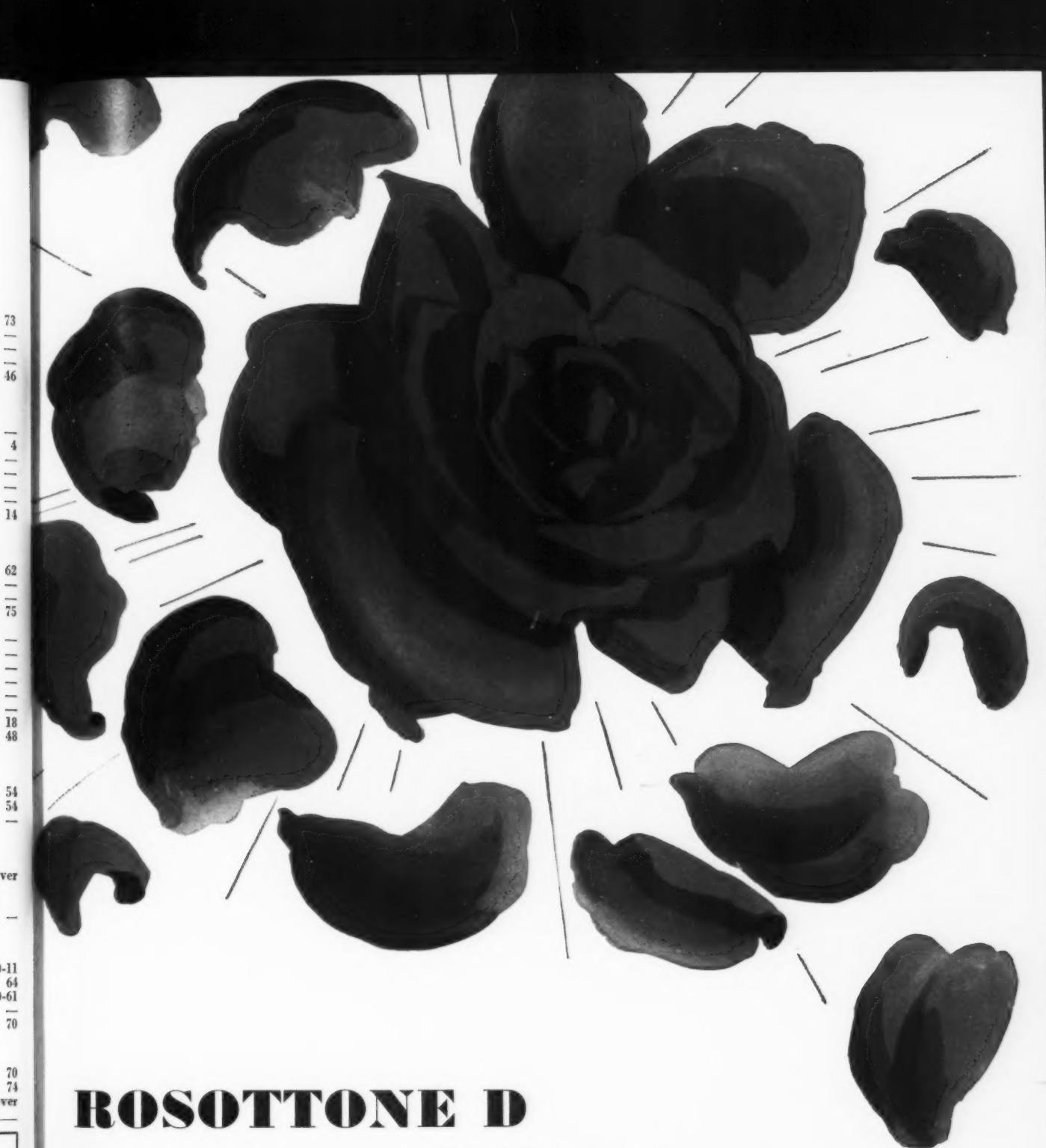
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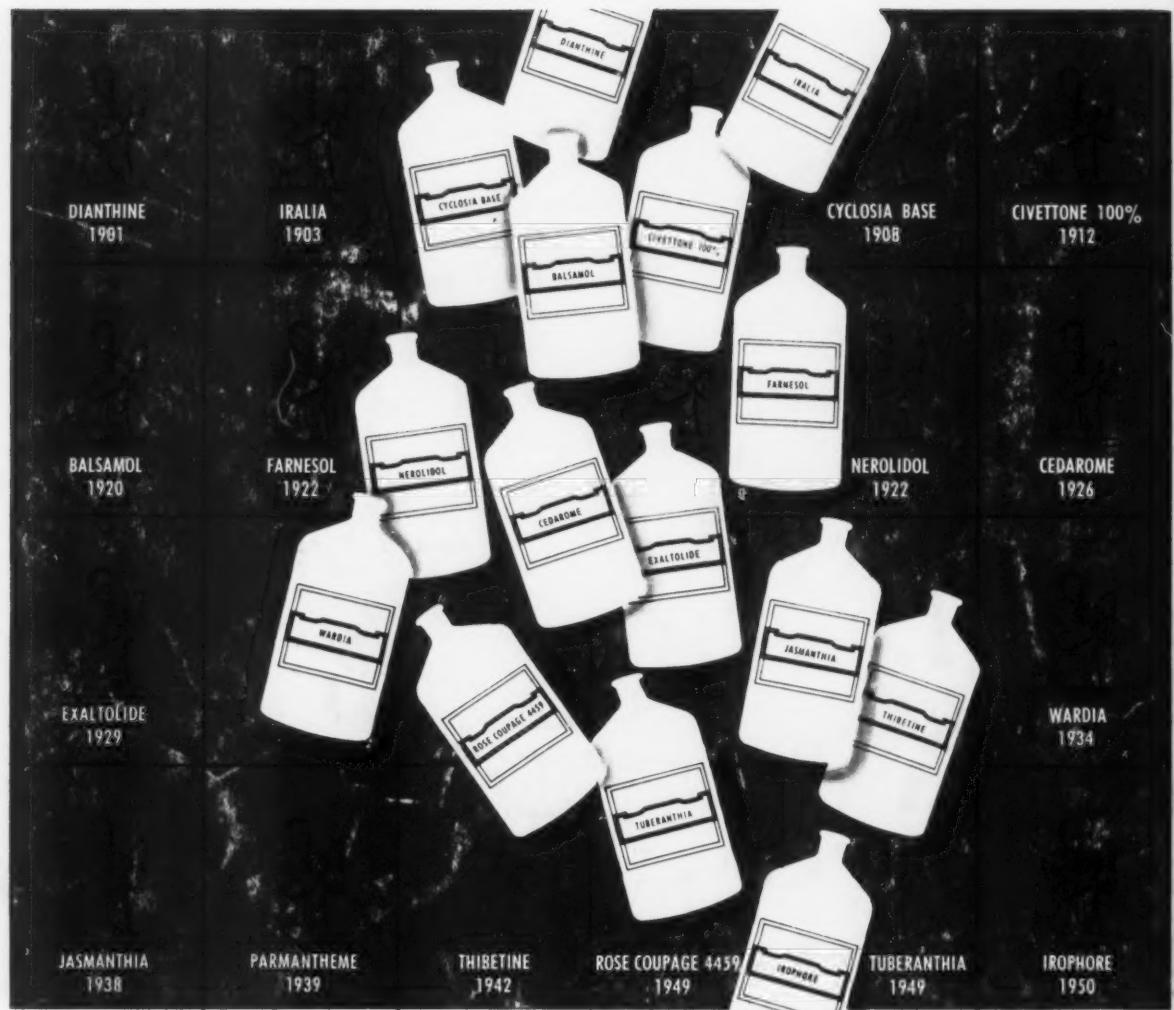
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